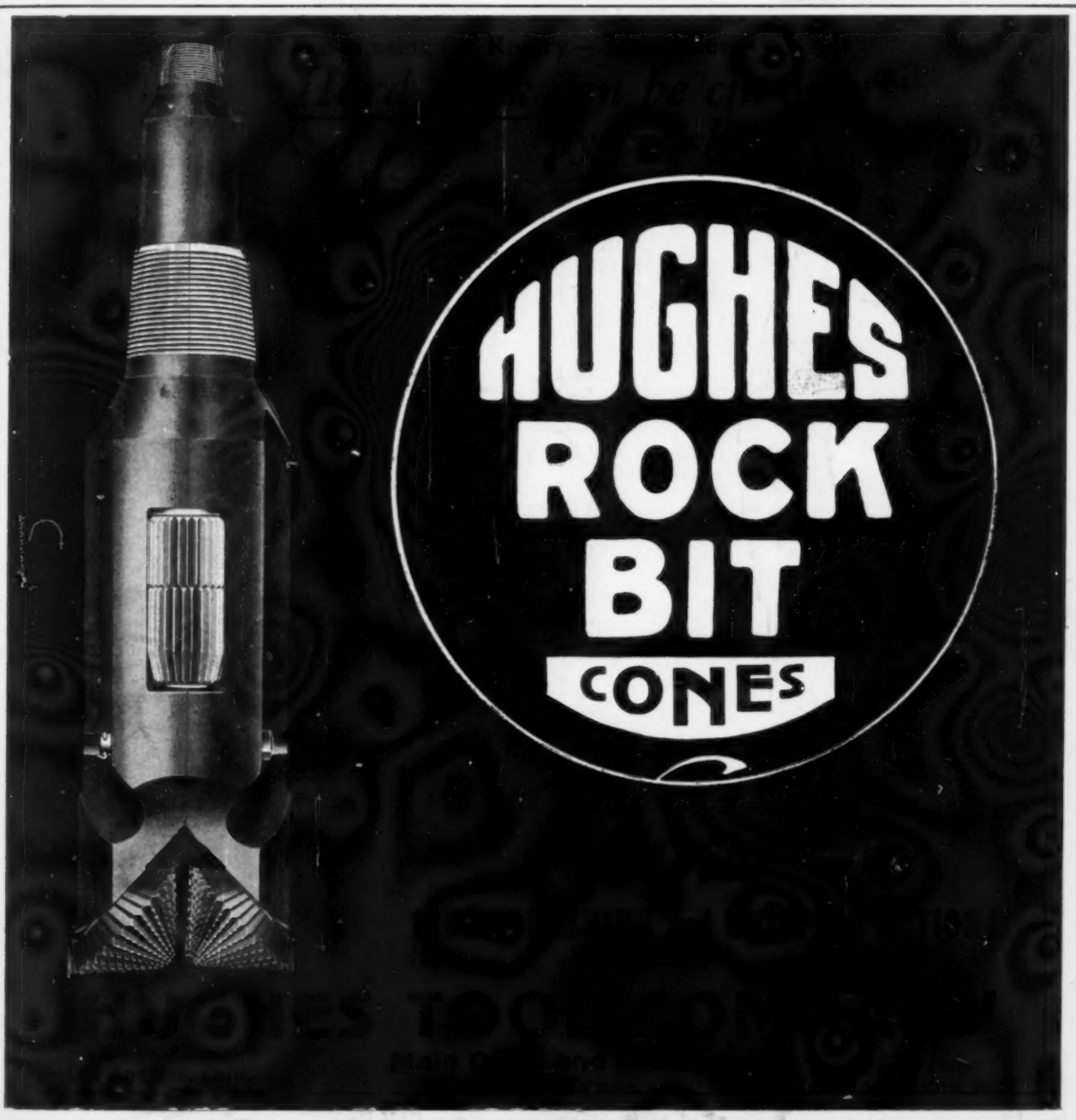
10¢ A COPY

The OIL WEEKLY

September 11, 1925 Volume 38. No. 12



"OILWELL"

SPRING TRAVELLING BLOCKS

(PATENTED)

Are a distinct improvement over the regular type of travelling block with spring casing hook.

"OILWELL" Spring Travelling Blocks have *two* springs which result in more uniform spring action. Though large in size and extremely powerful, they are shorter overall when equipped with any common casing hook than a regular travelling block with spring casing hook. The lower clevis is so arranged that any common casing hook can be readily attached.

The large center pin is drilled so that each sheave is lubricated independently. Lubrication is by means of the Alemite System and an Alemite gun is furnished with each block. Alemite connections are so located that they are not liable to damage.

Made in two sizes — 54″ with 6″ center pin and 30″ diam. sheaves and 66″ with 6″ center pin and 36″ diam. sheaves. Both sizes can be furnished bronze bushed or with roller bearings. Where roller bearings are furnished, they operate in high grade heat treated steel races and the lubricant is retained in the bearings.

Can be furnished either with triple, quadruple or quintuple sheaves, and either with or without guards. Can be furnished without spring attachment, if desired.

The 66″ block is so constructed that the spring attachment can be swung over to the side and the block stood on end when stringing the lines.

For further information inquire at any of our 100 Branches.

66 inch Shell

Length Over All—9 Feet, 4 Inches

PATENTED

54 inch Shell

Length Over All—7 Feet

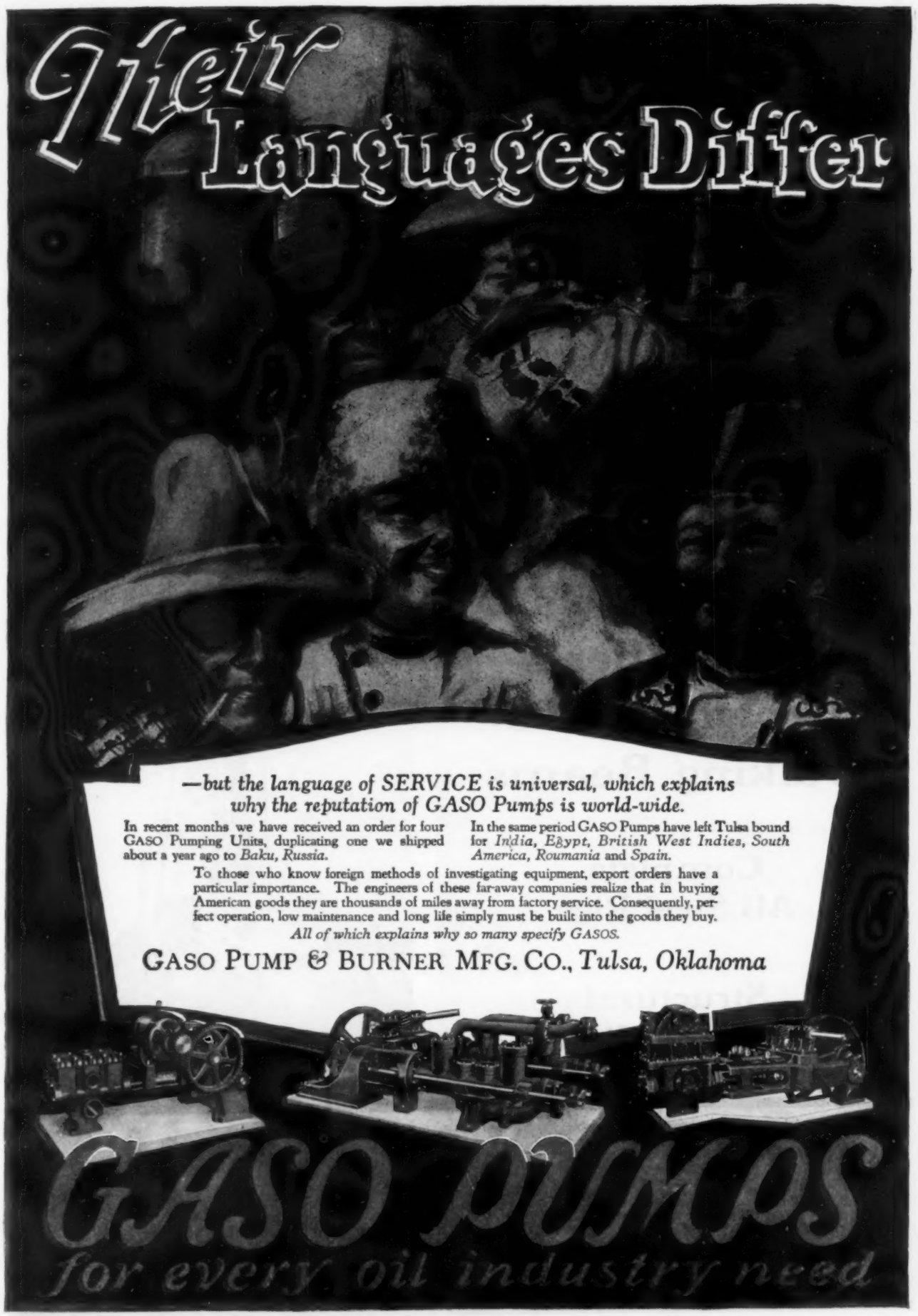
PATENTED

OIL WELL SUPPLY CO.

NEW YORK—LOS ANGELES—PITTSBURGH, U.S.A.—SAN FRANCISCO—TAMPICO—LONDON

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

THE OIL WEEKLY Issued weekly by the Gulf Publishing Co., 1716 Dallas Ave., Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.


Their Languages Differ
—but the language of SERVICE is universal, which explains why the reputation of GASO Pumps is world-wide.
In recent months we have received an order for four GASO Pumping Units, duplicating one we shipped about a year ago to Baku, Russia.
In the same period GASO Pumps have left Tulsa bound for India, Egypt, British West Indies, South America, Roumania and Spain.
To those who know foreign methods of investigating equipment, export orders have a particular importance. The engineers of these far-away companies realize that in buying American goods they are thousands of miles away from factory service. Consequently, perfect operation, low maintenance and long life simply must be built into the goods they buy.
All of which explains why so many specify GASOS.
GASO PUMP & BURNER MFG. CO., Tulsa, Oklahoma
GASO pumps
for every oil industry need

"IDE

International
"IDECO"
STEEL

Derricks
Bull Wheels
Calf Wheels
Band Wheels
Crown Blocks
Walking Beams

Complete
All Steel Rigs

Structural
Steel Buildings

INTERNATIONAL STEEL IDECO DERRICKS
(GALVANIZED)

Say you saw it in The OIL WEEKLY

"IDECO"

Service to Every Field —Wherever Oil Is Found

THE time is past when wind or fire can put your well out of commission for a month while a new derrick and rig is being built. Today, with International Steel service near every field, it is only a matter of hours until you can have a new "IDECO" Steel Rig on the location and working.

Branch warehouses local to every field in the United States, carry a complete stock of "IDECO" standard derricks and rigs. The International Structural Derrick is quick and easy to erect. International Steel Wheels, Beams, Crown Blocks and other equipment are standard size and adaptable to any derrick or rig.

An Export Office with direct facilities either from Columbus or Los Angeles offers the best service for exporting "IDECO" Equipment to foreign countries. International Structural Steel Derricks are light and compact and are economical for transportation anywhere.

The completely equipped and modern International Factory is at your service in the designing and building of any special equipment which your location may require. Before buying equipment, talk over your problems with our field representatives at the nearest branch.

Branch Offices and Warehouses:

HOUSTON
WICHITA FALLS
TULSA
CASPER
SHREVEPORT
SMACKOVER
OIL CITY
BAKERSFIELD
ELDORADO, KAN.
CORSICANA
MEXIA
NEW YORK

Manufacturing Branch:

LOS ANGELES

California National Supply Company Distributors in California

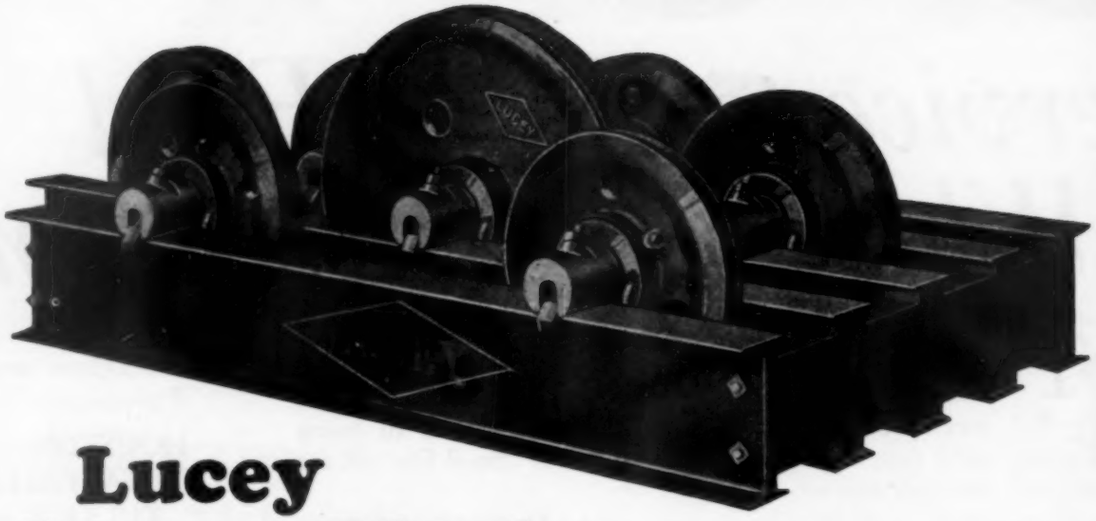
The International Derrick & Equipment Co.

Columbus, Ohio **Torrance, Calif.**

The Largest Company Devoted Exclusively to the Manufacture of Steel (Galvanized) Equipment for the Oil, Gas and Artesian Industries

INTERNATIONAL STEEL IDECO DERRICKS (GALVANIZED)

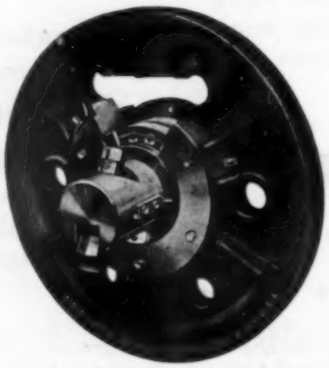
Watch this space for Lucey Products with RollerBearings



Lucey Crown Blocks

Can now be obtained with Cast Iron or Manganese Steel Sheave Wheels fitted with Timken Roller Bearings

THE TIMKEN ROLLER BEARING SHEAVE WHEEL



The introduction of Roller Bearings in the sheaves of Lucey Crown Blocks marks a real engineering advance in Crown Block construction and efficiency,—and is but further evidence of the enviable position Lucey holds in the front ranks of rotary equipment manufacturers.

Our new Crown Block bulletin points out the advantages of Roller Bearing Sheave Construction, and describes in detail many of the other features of the Lucey Crown Block that should interest you.

Write for your copy

"Branches In All Active Oil Fields"

LUCEY MANUFACTURING CORPORATION

CHATTANOOGA — TENN.

EXPORT DEPARTMENT - WOOLWORTH BLDG., NEW YORK

Comparisons Favor Darlings

Make it from any slant you like—long life, ease of operation, accessibility, quick repair, ultimate cost—any comparison will favor Darling.

Old-timers who have used Darlings along side of other makes will tell you of Darling superiority—for oil field work. Ask 'em.

DARLING VALVE & MFG. COMPANY

WILLIAMSPORT, PA.

NEW YORK CHICAGO OKLAHOMA CITY HOUSTON

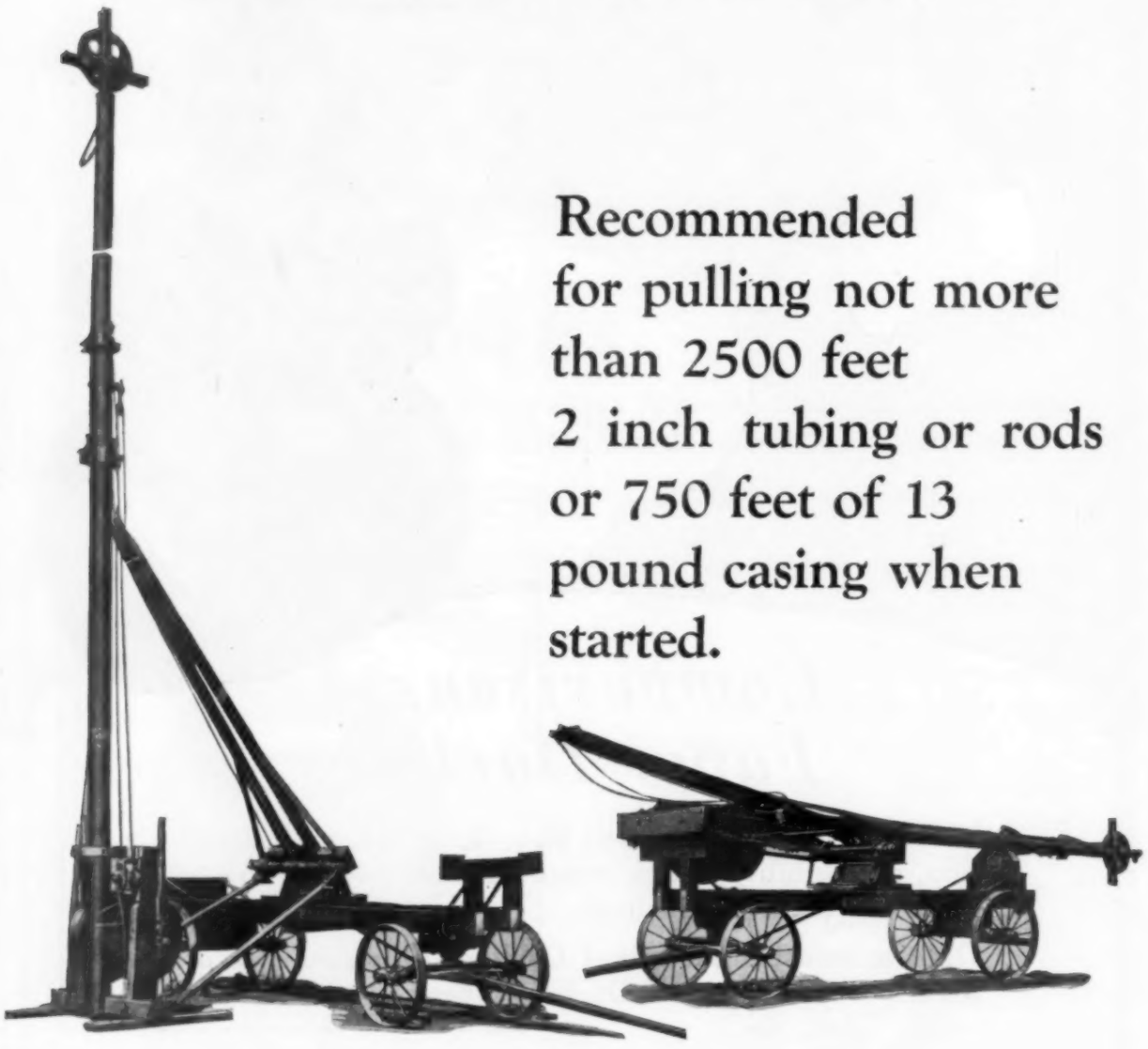
Mid-Continent Distributors:

Frick-Reid Supply Company
Atlas Supply Company
International Supply Company
Petroleum Supply Company

California Distributors:

Petroleum Equipment Company, Los Angeles

NATIONAL
PULLING MACHINE



Recommended
for pulling not more
than 2500 feet
2 inch tubing or rods
or 750 feet of 13
pound casing when
started.

THE NATIONAL SUPPLY COMPANIES

Say you saw it in The OIL WEEKLY

"Say Boss Don't Forget those Vulcan Back-Ups!"

No veteran in any oil region anywhere is unacquainted with the Williams' "Vulcan" Back-Up-Wrench. Insistence on this superior tongs is universal.

Drillers in all parts of the world are convinced by experience that its proof tested chain will not break; neither will its jaws spread or loosen (due to the extra large through bolt and nut for fastening).

J. H. WILLIAMS & CO.

"The Wrench People"

New York **BUFFALO** Chicago

They also realize that the greater bearing on pipe or casing that the "Vulcan" makes possible (due to its design and construction) is a convenience and added factor of safety which they can get in no other tongs.

Give them the best—it costs no more.

Literature?

Visit our exhibit—Booth 47—West Virginia Building, International Petroleum Exposition—Tulsa, Okla., October 1st - 10th.

WILLIAMS

SUPERIOR DROP-FORGED TOOLS

"VULCAN" BACK-UP WRENCH

Magnolia Petroleum Company

Producer *Refiner* *Jobber* *Distributer*

High Grade Petroleum Products

FUEL OIL

LOADING STATIONS AT

BEAUMONT CORSICANA SABINE GALVESTON FT. WORTH
HARBOR ISLAND LULING CORPUS CHRISTI DALLAS
HERMA, ARK. MIRANDO

MANUFACTURER OF

Magnolene
REG. U.S. PAT. OFFICE

THE

DEPENDABLE LUBRICANT

"A Grade for Each Condition

For satisfactory operation of Ford Cars use Magnolene Ford Oil

REFINERIES LOCATED AT

Beaumont, Corsicana and Ft. Worth

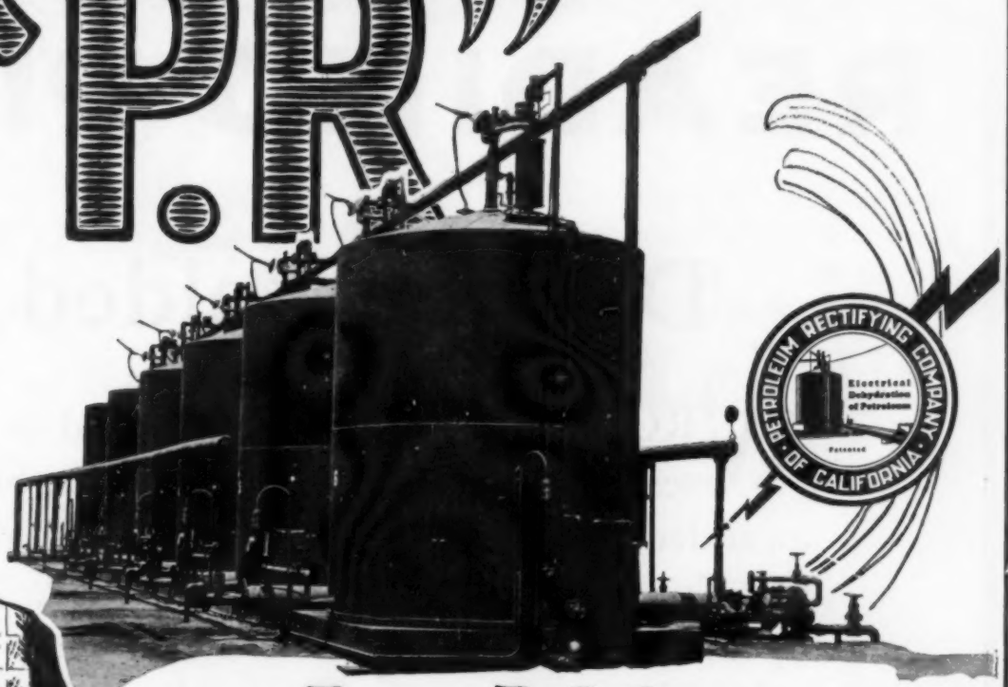
General Offices: DALLAS, TEXAS

DIVISION SALES OFFICES:

DALLAS HOUSTON FT. WORTH SAN ANTONIO OKLAHOMA CITY LITTLE ROCK
AMARILLO EL PASO

Inquiries Respectfully Solicited

"P.R"



An Additional 10%

Many producers operate on a very close margin, particularly when prices at the well are low. It is not always possible to cut operating or production costs. We can not, individually, govern the prices of crude. But the producer can insure the highest market price for his production, and more often than not an additional ten per cent on his gross production means the difference between operating at a loss and nice fat dividends paid regularly.

"Cut" oil is costing producers millions of dollars every year. But more and more producing companies are coming to realize that this loss is wholly unnecessary. "P R" Electric Dehydrators will bring any crude down to pipe line requirements, and under, recovering all the oil from the water and emulsion content, and restoring the entire production to its natural gravity. And a ten per cent increase in the price of crude treated by the "P R" method is the rule rather than the exception. The average is considerably higher.

"The Electrical Process for the Dehydration of Crude Oil Emulsion" is a comprehensive treatise on the problem of cut oil, prepared for the producer whose production runs higher than pipe line requirements. A copy will be forwarded to any operating company on request.

Petroleum Rectifying Company of California

308 Union Oil Building
Los Angeles, California

336 Humble Building
Houston, Texas

READING PIPE

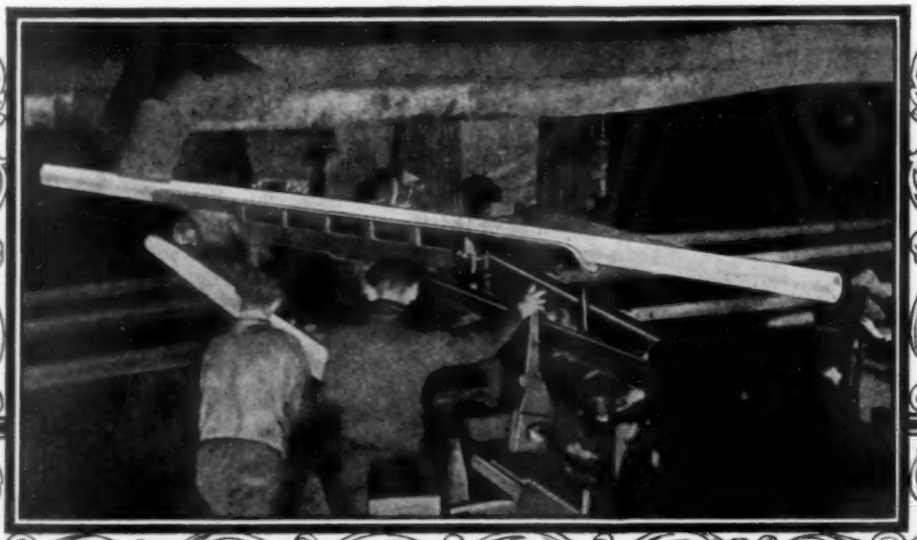
Doubly Welded

WROUGHT IRON is recognized as possessing superior welding qualities, but as an added precaution against defects all Reading Oil Country Tubing is doubly welded. The operator is absolutely sure that no weak spot exists in any length of Reading Tubing.

READING IRON COMPANY
READING, PA.

World's Largest Manufacturers of Genuine Wrought Iron Pipe

Oil Well Supply Co., Distributors
Stores in All Important Oil Fields



Say you saw it in The OIL WEEKLY

For a fast, safe, economical TONG that is strong enough for the heaviest rotary work, the

LEBUS

has proven itself under the most severe tests

There Are Occasions When TIME Means MONEY

—and LE BUS quick service; any time—anywhere—has saved thousands of dollars to the driller who "wants what he wants when he wants it."

LE BUS PATENTED OIL WELL TOOLS

- LeBUS Automatic Cathead
- LeBUS Slipsocket Overshot
- LeBUS Eureka Tongs
- LeBUS Breakdown Post
- LeBUS Bottom Hole Plug
- LeBUS Outside Drill Pipe Cutter
- LeBUS Inside Pipe or Casing Cutter

AT YOUR DEALERS

MANUFACTURED BY THE

LE BUS ROTARY TOOL WORKS

ELECTRA, TEXAS

Say you saw it in The OIL WEEKLY

Gulf Refining Company

OKLAHOMA
TEXAS
LOUISIANA

Refiners of PETROLEUM

GASOLINE
REFINED OIL
NAPHTHA
GAS OILS
PARAFFINE WAX
ASPHALT
FUEL OIL
LUBRICATING OILS
CYLINDER
ENGINE
CORDAGE

Red and Pale Paraffine Oils

General Sales Offices: PITTSBURGH, PA.

District Sales Offices:
NEW YORK, HOUSTON, ATLANTA, BOSTON, NEW ORLEANS, PHILADELPHIA

Ocean Terminals

Beverly, Mass.
Gibson's Point, Pa.
Port Tampa, Fla.
Port Arthur, Texas
Bayonne, N. J.
Savannah, Ga.
Gretna, La.
Magazine Point (Mobile) Ala.
Galveston, Texas
Providence, R. I.
Jacksonville, Fla.
Charleston, S. C.

A Personal Matter

The sale of a REED ROCK BIT is a very personal matter with every member of the REED organization.

"I never saw an outfit take so much personal interest in seeing that everybody is perfectly satisfied," is the sincere comment that comes back to us from the field almost every day.

The personal interest of REED men just begins with delivery. Prove this for yourself.

Reed Roller Bit Company

New York **HOUSTON** **Los Angeles**

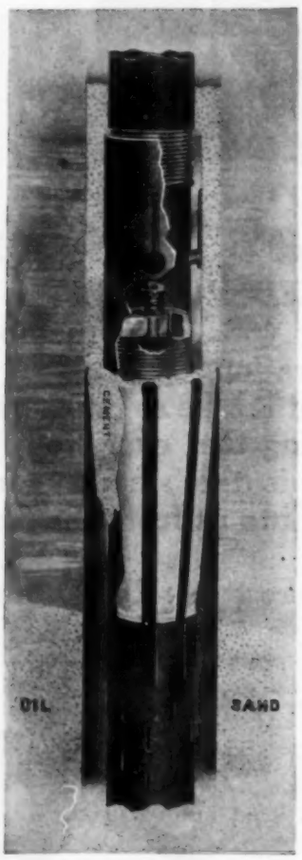
Mak-Shur CEMENT BARREL

Lorraine Built

Why Take Chances When Cementing?

Patented

Fig. 1
Exterior of "Mak-Shur" Cement Barrel



Patented

Fig. 2
Inside working parts show simplicity and positive operation

Make Sure with The "Mak-Shur"

There is no longer any reason to have cement job failures or delayed production. With the "Mak-Shur" Cement Barrel in your string you can set the cement at any point in the well with unvarying success, with less effort, no delays, and at minimum cost.

Study the working parts of this device in Fig. 2. It is extremely simple, yet positive in operation. With this device, the cement is forced out through diagonal ports, up and around the casing, in a spiral movement. Perfect distribution is accomplished by the number and size of ports in the barrel. The shoe is larger than the barrel, which insures perfect centering with space all around for the cement to fill. A one-way spring valve prevents cement from backing up into the casing under any circumstances.

With the "Mak-Shur" you can set the cement at any point in the well, and set the casing on the bottom of the hole with no weight on the slips. Circulation can be established without moving the casing, eliminating any danger of parting.

Built in all sizes from 4½" to 12½"

The LORRAINE Corporation

110th and Alameda Streets LOS ANGELES, CALIFORNIA

Mid-Continent Distributors: The Crowell Co., 406 West First St., Tulsa, Oklahoma

Export Distributors: Buck & Stoddard, 30 Church Street, New York City

The Jones U.S. Standard Thread. A GOOD THREAD FIT.

Another Standard Thread. A POOR THREAD FIT.

Pin Breaks are usually Fatigue Breaks. Fatigue usually comes from "Play"

Jones Standard Threads, are Perfect fitting theads.

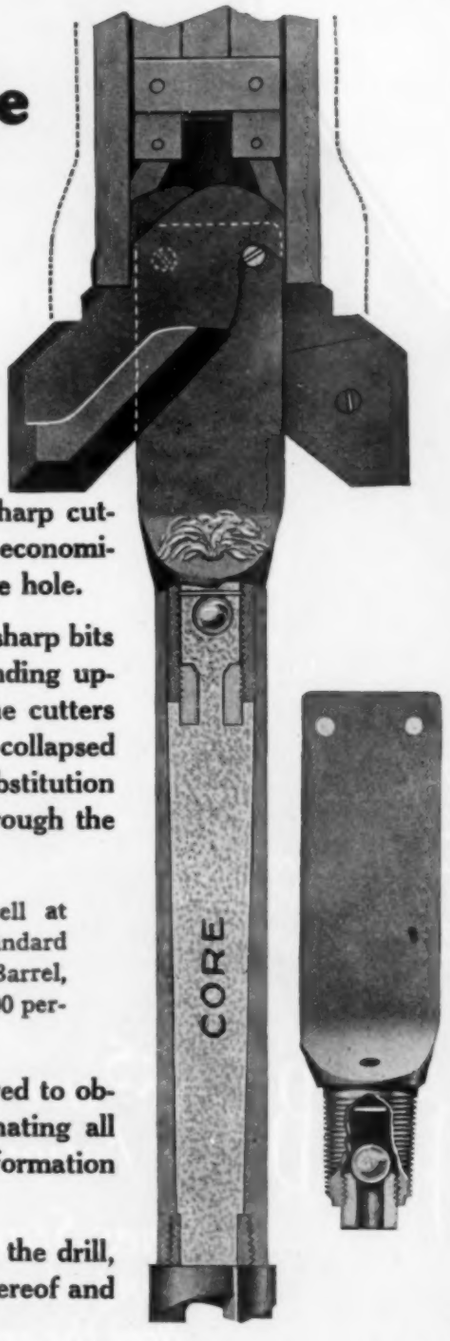
Note the greatly enlarged pin and coupling section. The threads FIT on the slopes allowing no lost motion. They have a small clearance at the bottom of the thread for dirt or foreign matter.

Jones methods produce the best results.

The S.M. JONES CO.
TOLEDO, OHIO.

THE OLDEST MANUFACTURERS OF STEEL SUCKER RODS IN THE WORLD.

Why Not Use the Standard Collapsible Rotary Drill and Core Barrel



in drilling your next well? You will be surprised by great saving of time and fuel.

A scientifically heat treated sharp cutting edge can be constantly and economically maintained at bottom of the hole.

Dull cutters are replaced with sharp bits in from 15 to 30 minutes, depending upon depth of the hole. When the cutters become dull the drill is quickly collapsed and brought to the surface for substitution of cutters by a cable lowered through the drill stem.

Drilling a 2250-foot wildcat well at mouth of Cedar Bayou with a Standard Collapsible Rotary Drill and Core Barrel, Mr. C. T. Rucker took more than 100 perfect cores without a failure.

Only a few minutes are required to obtain a large perfect core—eliminating all "guessing" as to character of formation being penetrated.

Simply collapse and withdraw the drill, attach core barrel to lower end thereof and return to bottom of the hole.

The drill stem is not withdrawn until the hole is completed.

Write for Literature

O. M. CARTER

W. T. HILTPOLD, Sales Agent
206-7-8 Scanlan Bldg., HOUSTON, TEXAS

Designers and Manufacturers of Quality Oil Well Equipment

Mechanical perfection in the Regan Traveling Block

Regan Blocks are designed on the rotating pin principle. Each sheave rotates with its own individual pin which is mounted with a roller bearing at each end. This provides greater bearing surface. Mechanical engineers will tell you this is the most efficient bearing principle known.

Greater speed, greater safety, greater durability, lower cost—exclusive Regan Block features.

Send for Literature NOW—it will interest you. Locations of Regan Blocks in service nearest you will be given upon request.

Regan

Forge & Engineering Co.

Quality - Wrought on the Forge of Experience

San Pedro California

New York Office, Woolworth Building, 233 Broadway, Wm. Braat, Manager
New York Cable Address: "Braat" A. B. C. Code; 5th Edition; 5th Edition Improved; 6th Edition.

Los Angeles Cable Address: "Reganforge" Western Union Five Letter Code.

Say you saw it in The OIL WEEKLY

A Proved Process and a Dependable Organization

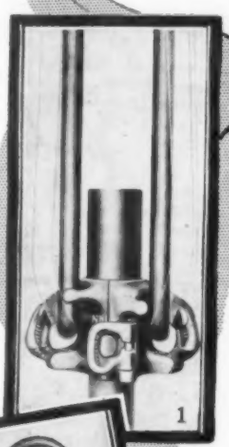
HALLIBURTON OIL WELL CEMENTING CO.
Duncan, Okla.

FOR CLASSY SERVICE
TONGS
TUBING CATCHERS
ELEVATORS
HOOKS
It must be DUNN

DUNN TOOLAGRAM

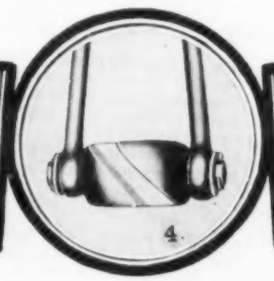
ORIGINAL
PRACTICAL
ECONOMICAL

THE PIRATE *steals his stuff* — We Originate Ours!



Have you seen any of the new Dunn Tools? If not, ask us about our offer to prove their superiority on your own property without cost or obligation to you. Don't use antiquated equipment.

1. The "Rotary Flyer" (Double-Door Type) Dunn Super-Safety Elevator.
2. Dunn Safety Automatic Spring Hook (for Rods and Tubing).
3. Dunn Safety Rotary Tongs (No Bushings).
4. Dunn Safety Sucker Rod Elevator, Type "R".
5. Dunn Super-Safety Elevator (Side-Door Type).



DUNN MFG. CO.
Oxnard, California

OIL WELL PATENTED DUNN TOOLS
TRADE MARK REG.

Say you saw it in The OIL WEEKLY

INDEX TO ADVERTISERS

A

Acme Fishing Tool Company ..... *
Adler, Joseph L. 81
Ajax Iron Works ..... *
Allen and Courtney ..... *
Aluminum Company of America ..... *
American Pipe Bending Machine Company.. 81
American Steel Wire Company ..... *
American Tank Company 83
American Telephone & Telegraph Company.. *
Axelson Machine Company 86

B

Baash-Ross Tool Company 46
Baird Supply Company ..... *
Baker Casing Shoe Company ..... *
Barnickel, Wm. S., Company 74
Becker Specialty Company 63
Bessemer Gas Engine Company ..... *
Black, Sivalls & Bryson, Inc. 84
Boykin Machinery & Supply Co. ..... *
Bradford Rig and Reel Company 61
Bridgeport Machine Company ..... Back cover
Brown Welding & Machine Company 44
Brownell Company 64
Bruce-MacBeth Engine Company ..... *
Buckeye Traction Ditcher Company ..... *
Burns Tool Company ..... *
Butler Manufacturing Company ..... *
Byers, A M., Company ..... *
Byron Jackson Pump Company 42

C

Cameron Iron Works ..... *
Carter, O. M. 18
Central Steel Company ..... *
Clark Bros. Company ..... *
Clark Machine Company ..... *
Climax Engineering Company 72
Columbus Sucker Rod Company, The ..... *
Continental Supply Company 39
Crain Ready-Cut House Company ..... *
Crescent Pipe Line Co. ..... *
Cunningham Company 65
Cypress Tank Company ..... *

D

D. & B. Pump & Supply Company 62
Darling Valve Manufacturing Company 7
De La Vergne Machine Company ..... *
Dunn Manufacturing Company 21

E

Eagle Picher Lead Company ..... *
Eastern Torpedo of Ohio 82
Elliott Core Drilling Company ..... *
Emsco Steel Products Company ..... *
Everett, R. B., & Company 73

F

Federal Supply Company 79
Fetty, C. C., & Company ..... *
Fokker Aircraft Corporation 49
Fort Worth Laboratories 80
Foster & Reiter 81
Franklin Valveless Engine Company..... Inside back cover
Frick-Reid Supply Company 35

G

Gardner Governor Company ..... *
Gaso Pump & Burner Mfg. Company 3
General American Tank Car Corporation ... *
General Electric Company ..... *
Gott, H. P., Manufacturing Company 82
Gould Burner Company 73
Goulds Manufacturing Company ..... *
Greenspon's Sons Iron & Steel Company ... 69
Guiberson Corporation 36
Gulf Refining Company 14
Gustin-Bacon Manufacturing Company ..... *

H

Halliburton Oil Well Cementing Company.. 20
Hardway & Cathey 76
Harrisburg Pipe & Pipe Bending Company.. *
Havana Manufacturing Company ..... *
Heydrick Mapping Company 74
Hirsch & Hannay 81
Hope Engineering & Supply Company 68
Hopkins, Edwin B. 81
Hough Manufacturing Co., Charles N. 78
Houston Pump & Supply Company 82
Houston Engineers 80
Hughes Tool Company ..... Front cover
Humble Oil & Refining Company ..... *

I

International Derrick & Equipment Co. ... 4-5
International Supply Company ..... *
Iron King Manufacturing Company ..... *

J

Jarecki Manufacturing Company ..... *
Jefferson Union Company ..... *
Jensen Bros. Manufacturing Company ..... *
Jones Company, The S. M. 17
Jones Oil Well Reamer Company ..... *
Johns-Manville, Inc. ..... *

K

Kansas City Bolt and Nut Company ..... *
Kelly & Jones Company ..... *
Keystone Pipe & Supply Company 73
Kobe, Incorporated 74

L

Lancaster & Allwine 81
Layne & Bowler ..... *
Le Bus Rotary ool Works 13
Linthwaite-Thompson Company ..... *
Longhart Supply Company ..... *
Lorraine Corporation 16
Lucey Manufacturing Corporation 6
Ludlow Valve Manufacturing Company 76
Lufkin Foundry & Machine Company ..... *
Lunkenheimer Company ..... *

M

M. & V. Tank Company 78
Manzel Bros. ..... *
MacClatchie Manufacturing Company ..... *
Magnolia Petroleum Company 10
Maloney Tank Manufacturing Company 71
McEvoy, J. H., & Company ..... *
McIntosh & Seymour Corporation ..... *
McKain, J. B. 76
Metric Metal Works ..... *
Mexia Planing Mill ..... *
Miller Co., Robert J. ..... *
Monongahela Tube Company ..... *
Moore, Lee C., & Co. 77

N

Nabors Co., W. C. ..... *
National Supply Companies 8
National Transit Pump & Machine Company. 24
National Turnbuckle Derrick Company .... *
Norris Brothers 80
North American Exploration Company 76
Northrup Equipment Company 63

O

Oil Conservation Engineering Company ..... *
Oil Country Specialties Company ..... *
Oil Well Supply Company ..Inside front cover
Oklahoma Portland Cement Company ..... *
Okmulgee Boiler & Metal Works ..... *

P

Pacific Oil Tool Company ..... *
Parkersburg Rig & Reel Company ..... *
Patrick, R S. 89
Pattin Bros. Company ..... *
Peden Iron & Steel Company 71
Pelican Well Tool & Supply Company 64
Petroleum Iron Works ..... *
Petroleum Rectifying Company 11
Pioneer Tank & Boiler Company ..... *
Pittsburgh Reinforced Brazing & Machine Company . . .. *
Price, W. Armstrong 81

R

Ratigan, J. P. 59
Reading Iron Company 12
Reed Roller Bit Company 15
Regan Forge & Engineering Company..... 19
Republic Supply Company ..... *
Ring, Dewitt T. 81
Robertson-MacDonald Lumber Company 72
Robinson A. . ..... *
Robinson, Heath M. 81
Robinson Tool Co., Inc..... *
Rock Island Plow Company..... *

S

Schley, Jack A. 80
Shaffer, J. E., Company..... *
Shaffer Specialty Company..... *
Sheffield Tool & Supply Company..... *
Simler, J. B. ..... *
Sinclair Refining Company 51
Smith & Company, Howard ..... *
Smith, H. C., Manufacturing Company..... *
Smith Separator Company 40
South Chester Tube Company ..... *
Southern Brass Manufacturing Company.... 81
Southern Engine & Pump Company..... *
Southwestern Purchaser ..... *
Spang & Company ..... *
Spellman, John M. 76
Spence Machine Company, The ..... *
Spengler Core Drilling Company ..... *
Standard Engineering Company ..... *
Stanley Belting Company 89
Star Drilling Machine Company ..... *
Straus-Bodenheimer Company ..... *
Stone, Jesse R. 74
Sullivan Co., The 58
Sullivan Machinery Company 70
Superior Tube Company ..... *

T

Texas Oil Pump Company ..... *
The Texas Company 48
Titusville Forge ..... *
Titusville Iron Works, The ..... *
Tnemec Paint & Oil Company..... *
Traction Machine Company ..... *
Trimont Manufacturing Company ..... *
Trumble Gas Trap Company ..... *
Tyler Tube & Pipe Company, The..... 89
Twin City Company ..... *

U

United Iron Works ..... *
United States Torpedo Company ..... *

V

Vacuum Oil Company ..... *
Vinson, Elkins & Wood 81

W

Ward Chemical Company ..... *
Waukesha Motor Company 66
Webster, C. W. 81
Westcott & Greis ..... *
Western Machinery Company ..... *
Westinghouse Electric & Mfg. Co..... *
Wickwire-Spencer Steel Company, Inc..... *
Williams & Company, J. H. 9
Williamsport Wire Rope Company ..... *
Wilson Oil Tools Corporation 72
Winston, C. A. ..... *
W. K. M. Company ..... *
Wyatt Metal & Boiler Works ..... *

Y

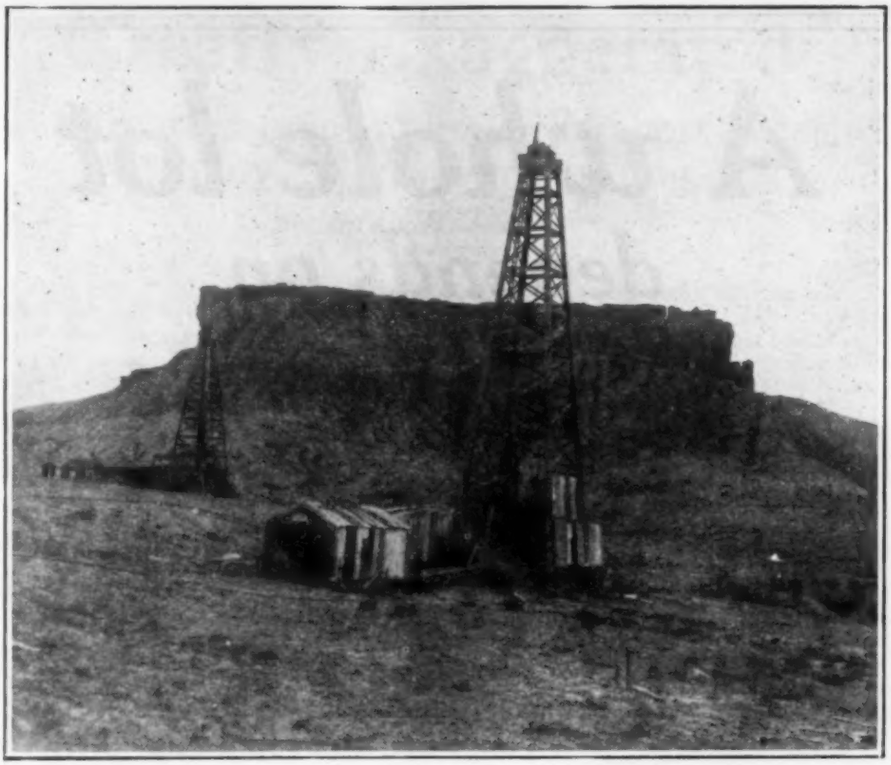
Yale & Towne Company ..... *

Z

Zero Hour Torpedo Company ..... *

*Printed in one or more issues of each month.

SEP 14 1925
©CIB667111



Castle Rock, an outcrop of the Shannon sand in the Salt Creek field

The OIL WEEKLY

September 11, 1925 **Volume 38, Number 12**

TABLE OF CONTENTS

FUTURE OF BARNEY CARTER POOL GREATLY EXAGGERATED 25
By H. H. King

MARKET UNFAVORABLE—PRODUCTION MOUNTING 25
By Kent Ridley

ADAPTING EQUIPMENT TO ELECTRIC POWER 27
By Grady Triplett

COMPRESSORS HELPED PROLONG LIFE OF SANTA FE SPRINGS 32
By Wm. V. Gross

CALIFORNIA'S DOWNWARD TREND CHECKED 43
By Wm. V. Gross

ROCKY MOUNTAIN ACTIVITIES REACH HIGH POINT IN AUGUST 45

ADVERTISERS INDEX 22

FIELD NOTES AND PRODUCTION STATISTICS 43

CRUDE OIL PRICE QUOTATIONS 50

DAILY AVERAGE PRODUCTION FOR U. S. 52

PERMITS FOR DRILLING WELLS 60

COMPLETIONS IN ALL U. S. FIELDS 53

WILDCAT DRILLING REPORTS 56

NEW EQUIPMENT OF INTEREST TO PRODUCERS 67

LETTERS OF PAUL PEEBLES, *P. S. G.* 69

"SQUEAKS" FROM THE BULL WHEEL . . . 93

GUIDE FOR PURCHASERS 95

Published Weekly by GULF PUBLISHING COMPANY, INC.
Copyrighted, 1925
R. L. DUDLEY, *President;* A. L. BURNS, *General Manager;* SPENCER W. ROBINSON, *Editor*
Office of Publication: 1716 Dallas Ave., Houston, Texas

NEW YORK: Room 2002 350 Madison Avenue, H. H. Gill, Manager. CHICAGO: 453 First Nat'l Bank Bldg., O. R. Waller, Manager. LOS ANGELES: 1201 Haas Bldg., Wm. V. Gross, Manager. TULSA: 215-16 Atco Bldg., J. F. Carter, Jr., Manager. FORT WORTH: 212 W. T. Waggoner Bldg., H H. King, Manager. Issued Friday of each week. Single copies 10 cents. Subscription price $1.00 a year. Advertising rates on application.

A whole lot depends on a little bit

WE make no special bits for TRANSIT Red Head Tongs.

All TRANSIT Tong Bits have to be made good, because any one might be assembled in a TRANSIT Red Head Tong, and the reputation of the whole tool would then be at stake.

We take no chances—we make them all good.

There are forty ways to cheapen these bits, but we know of no way to make them better.

Transit Tong Bits

Special steel; cut from bar stock on an automatic machine to preserve the structure of the steel at the ends. Each bit is then accurately ground on all four sides. Result—four true and sharp edges.

In the hardening furnace, each bit is handled separately. After hardening, it is heat treated and the temper drawn to an exact and predetermined point.

NATIONAL TRANSIT
Pump & Machine Company
OIL CITY, PA.

DISTRICT OFFICES: New York, Philadelphia, Pittsburgh, Cleveland, Tulsa, Houston, Denver

Future of Barney Carter Pool Greatly Exaggerated

Porous formation gives up its oil in short order while many failures were drilling

By H. H. King
Staff Representative

Ranger, Texas.—An even total of 20 dry holes below the 3500-foot level has been registered around the Barney Carter pool in lower Stephens County since the area displayed possibilities during the fore part of the summer of having a high yield of crude per acre. Other than one test nearing the pay level on the western outskirts of the producing area, all drilling operations have ceased, with a net result of 12 pumping wells having a combined output of 485 barrels daily. The Lake Eastland sand, which furnished production for this pool between the 3500-3600 foot level, failed to uphold its reputation for crude yield, and when subjected to drainage by a half dozen wells declined to the pumping stage in several weeks. The cordon of dry holes drilled in recent weeks in close vicinity of the producing wells leaves about 150 acres of proven territory, with small prospects of more tests being drilled on several remaining locations on proven acreage by reason of the fast depletion of the oil in the sand.

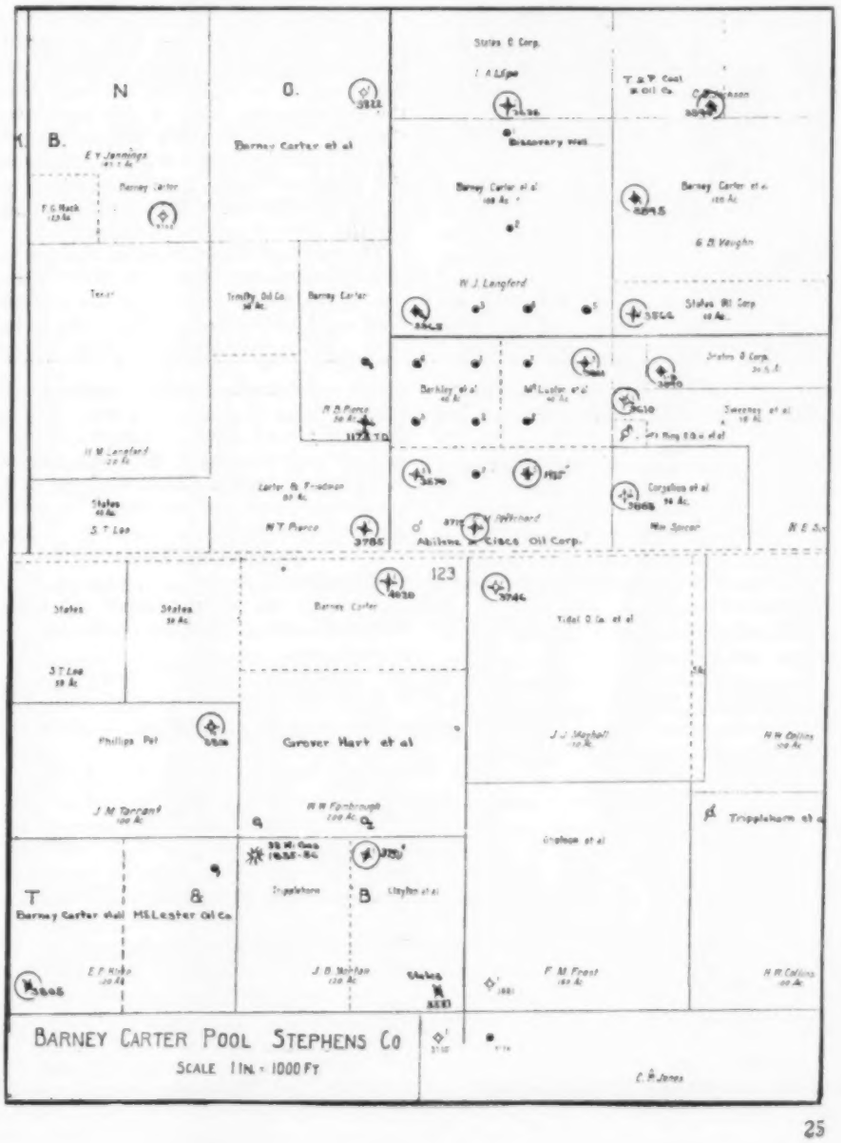
This pool did not attract interest in general until nearly one year after the discovery well was brought in, as oil operators were skeptical of the territory around the first well due to nearby dry holes. The discovery was made by Barney Carter and associates on the W. J. Langford 160-acre lease in June, 1924 with an initial flow of 350 barrels of 40 gravity oil from one foot of Lake Eastland sand pay at a total depth of 3571 feet. This well maintained its natural flow at a surprisingly even rate, and due to its performance a test was started by George Barkley et al on acreage sub-leased from Barney Carter about 1800 feet south and slightly west of the discovery well. Barkley et al brought in their Pritchard 1 on May 2, 1925, flowing 3600 barrels initial at 3535-46 feet, while the discovery well was holding above 300 barrels daily by heads after being in 11 months. The steady performance of the discovery well, and big flush yield of Barkley et al's well offered a reasonable argument for operators to acquire lease protection and launch a development campaign.

Independent operators set the pace in lease trading, and a number of tracts comprising the original wildcat block assembled by Barney Carter et al were farmed out for development to individuals on an interest basis. Representatives of major companies were on hand, but failed to participate in the lease play as extensively as the small operators. Three major companies obtained leases and drilled as many dry holes, while others layed off for fear of the pool proving a disappointment. High prices posted for leases also kept out a number of companies that were interested.

First Three Looked Good

The first three tests drilled in after the discovery of big production in the pool by Barkley et al made a high initial output. The field reached a maximum daily production of 11,500 barrels early in May from five wells, but receded from this peak at a rapid rate, and at the close of July was making only 1215 barrels daily from 10 wells. Prairie added to its pipe line facilities when the pool was going strong with flush production, and the Texas Pipe Line Company built a small line to the pool to be of service if needed, but failed to land a connection. The United Producers Pipe line Company had previously tied up all the leases that proved productive, except for the 40 acres developed by Barkley et al through the payment of a premium.

The development of the Barney Carter pool has since revealed that the Lake Eastland sand pay in this particular territory is very porous, with only a thin body of sand to draw on,



Market Unfavorable–Production Figures Mounting

Disposition of purchasers is to maintain crude prices against weakness in gasoline

By Kent Ridley
Staff Representative

PRODUCERS can get little encouragement from the circumstance that there is a disposition on the part of purchasers of crude oil to maintain crude prices. Continued weakness of the gasoline market and a too healthy increase in production, particularly in the Mid-Continent, are not calculated to increase the demand for crude, and a continuation of the condition can not but lead to further price recessions, as undesirable as such would be to all parties concerned with the delivery of the product in its finished form to the consumer.

Gasoline has continued downward until quotations are around 8 cents, with nothing definite to indicate that that is the bottom figure. However, the downward trend has been slower as the lower figures were reached, and purchasers of gasoline who are inclined to buy in hope of an upward movement may come in with sufficient orders to start a reaction at any time.

California is accredited with being responsible for the gasoline situation through a disposition to dump their product on the Eastern market at any price required to move their stocks. Bureau of Mines report for July, released on September 1, shows that California stocks of gasoline at the end of that period represented approximately one-fourth of the total reserve of the United States. The report shows that refinery output for that month was a record, being 28 per cent above the same period in 1924, as compared to a gain of only 22 per cent in consumption as between the two periods. Stocks of gasoline were reduced during that month 5 per cent, as against a normal for the season of 10 per cent. Which means that while consumption is reaching record figures, the refineries have been maintaining output at a greater ratio.

Week's Production Up

Estimated crude oil production in the United States last week was 2,150,460 barrels, a gain of 10,000 barrels over the previous week's daily average, and the highest since May of this year. In the Mid-Continent there was a gain of approximately 16,000 barrels daily over the previous week, and approximately 33,000 barrels above the daily average for the section during August.

The weakened condition of the gasoline price structure in the Mid-Continent offered little assistance during the past week to refiners in their efforts to halt further recession of prices, and the bottom prices on gasoline during the present market disturbance have not been sounded. The popular grades of gasoline are now offered at a full half cent under the quotations of the week previous, and U. S. motor grade is now available at 8 cents, with buyers displaying little interest in the bargain prices.

The crumbling of the gasoline price structure has been followed with great interest by producers, with the inevitable price reductions on crude already discounted. Major crude buying agencies are showing a willingness to hold crude prices up as long as possible, and apparently will not force crude prices to a level in proportion to that of gasoline. Absence of any appreciable volume of new production in the Mid-Continent leaves the crude market in excellent shape to enter into a period of dullness, and heavy stocks of crude are largely in the hands of companies that are in position to carry same for a long period. However, a number of small plant owners in the Mid-Continent have permitted a quantity of crude to back up in their storage while attempting to curtail gasoline output and at the same time holding to their regular crude sources in the fields. Some refiners have been forced to give up a portion of their crude connections, but in every instance producers have found a ready market for their oil with other buyers.

The Big Lake field in West Texas accounted for a gain of 6595 barrels of light oil production during the past week as a result of the completion of a number of flowing wells along the property line of the Big Lake and Texon companies. These two concerns control the field, and have been pushing developments on the border line of their properties, but all offset locations are scheduled for completion this month and drilling activity in the field will be reduced. The field averaged 38,450 barrels daily during the past week, thereby establishing a new peak.

The favorable outlook for fuel oil over the balance of the year east of the Rockies contributes to a steady demand for heavy oil at Smackover, and premiums are available above the posted price for producers. Inquiries from responsible buyers were in circulation during the past week for spot deliveries of crude at a premium of 5 cents per barrel at the well.

---

and gives up its entire contents on short notice. The discovery well has since been found to be located on the extreme north edge of the producing area, and was able to maintain its steady production over a long period by reason of the migration of the oil from the high point of the structure. The discovery well ceased its natural flow when the pool was tapped by other wells, and is now averaging only about five barrels daily on pump. After having failed to make producers in the Lake Eastland sand, a number of operators carried their tests down to the Ranger pay at the 3800-foot level, but oil and gas was not obtainable in commercial quantities.

Completion Record

Completion record and present production of the 12 completed oil wells in the Barney Carter pool follows:

	Completion Date	Initial Production	Eastland Sand	Present Production
Abilene-Cisco Oil Company—				
P. M. Pritchard 1	*7-15-25	300	3528-36	*
Barkley et al—				
P. M. Pritchard 1	5-2-25	3,600	3535-46	...
P. M. Pritchard 2	6-20-25	430	3544-51	...
P. M. Pritchard 3	8-1-25	10	3540-47	...
P. M. Pritchard 4	8-1-25	150	3551-60	125
Barney Carter et al—				
W. J. Langford 1†	6-7-24	350	3570-71	5
W. J. Langford 2	5-28-25	4,500	3541-50	...
W. J. Langford 3	6-13-25	4,800	3542-56	...
W. J. Langford 4	7-11-25	250	3552-65	...
W. J. Langford 5	7-25-25	150	3530-44	270
McLester Oil Company—				
P. M. Pritchard 1	6-1-25	3,000	3539-43	...
P M. Pritchard 2	6-20-20	400	3538-47	85
Totals		17,940		485

*Cleaning Out. †Discovery well.

Adapting Equipment to Electric Power is Midwest Scheme

By Grady Triplett,
Staff Representative

Casper, Wyoming.—In the electrification of the Salt Creek oil field, the Midwest Refining Company has approached its problem of using motor power from a viewpoint different from that often taken. Electric power has been tried in many instances and in some of these has been discarded. Frequently these instances were those in which the electric motor was set where a steam or gas engine had been in use. The electric motor was left to do its work with the aid of equipment that had served the other type of prime mover.

In the case of the Midwest Refining Company the purpose has been to adapt equipment to electric power rather than to adapt electric power to existing equipment.

Another difference in the way this concern uses electric power comes from the fact that the concern is generating its own current. With the power plant in operation, this concern is not faced with the question of power cost, as is the concern which is taking power from a commercial concern. The wider the use of electric power with the Midwest Refining Company, the possible lower cost per kilowatt hour. Where electricity is taken from commercial lines, the greater the use of power the higher the cost.

Control house for a drilling rig. The recording Watt meter is seen in the foreground

For drilling, the Midwest has two types of installations in use. One is a double motor unit, the other a single motor unit.

The double motor unit consists of two Westinghouse, double wound, 15 and 35 horse power units. These motors are so wound that either the 15 horse power or the 35 horse power side of the motor can be used, the change being made by throwing a switch.

For drilling, one of these motors is used to handle the tools, the other for bailing and other duties of the rig. Control of these motors is from a control house, which is portable. These control houses are kept at the power plant when not in use, being ready for transportation to a rig on momentary notice. The houses are provided with a place for inserting an axle with small wheels at the rear end, the other being raised and fastened to a truck, so they can be moved easily.

Salvage Value High

Control equipment is designed for drilling and comes in accordance with the type of drilling motors used. This control allows motor motion in either direction, giving the tools either direction without the necessity of reversing clutches.

One advantage of the two motor equipment is its salvage value. After being used for drilling, each motor can be converted into a pumping motor. Or it can be installed on a portable cleanout machine. Then the pumping arrangement worked out for the Salt Creek field requires that heavier motors be used for cleaning out wells and these drilling motors can be used singly for that purpose.

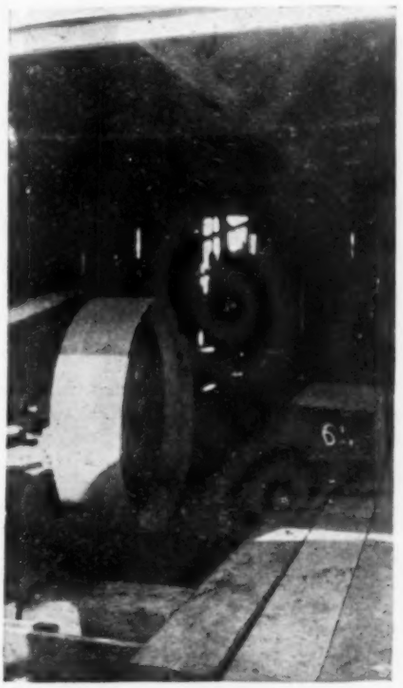
Two meters are used with each drilling rig, regardless of the type. The ammeter is installed on the Sampson post, where it can be seen by the driller After some experience, the driller is able to tell from the hand of this meter just what his tools are doing.

By close attention to the ammeter the driller can keep his bit taking hold at a constant ratio. He is not dependent on touch for knowing when to begin another hitch, for the meter hand shows the instant the tools cease cutting.

In this connection, it is pertinent that reports from a deep well in Colorado are that the ammeter was the only indication of the action of the tools. This is the Rollestone well, being drilled by electric power. When the hole reached below 7000 feet, the drillers found it difficult to know just when a screw had been drilled. But the hand on the ammeter was never deceived. It showed instantly when there was no more cutting to be done on a hitch.

Why Drillers Like It

This delicacy of the ammeter is one of the factors that have made the electric motor a favorite with drillers at Salt Creek. Some objection was raised



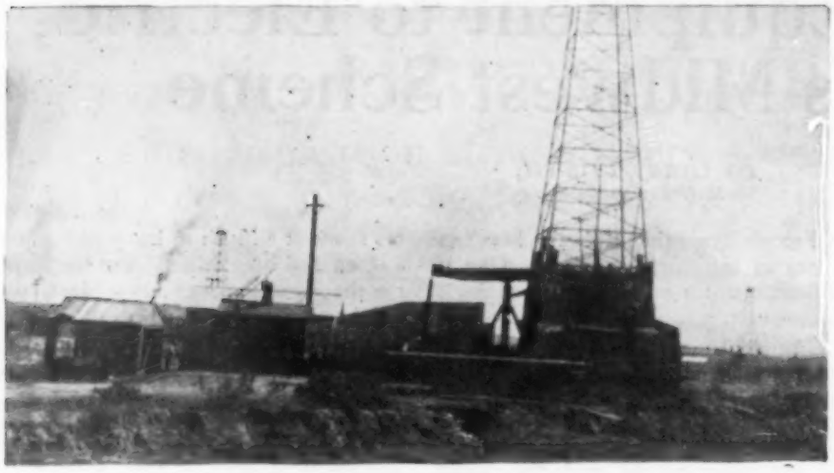
A single motor drilling arrangement. The motor is in the background, showing the belt to the countershaft pulley, while the belt from countershaft to the band wheel can be seen to the left of the picture.

when motors began to supplant steam engines. But Midwest officials insisted on the motors, even contractors using them. The result is that only one steam rig is now running in the Salt Creek field. Drillers are generally favorable to the power.

In one instance a driller, after deciding to leave the Salt Creek field, sought employment in Kansas, where a lease is to be drilled by electricity. His preference for this lease was the use of electric power.

The other meter on each rig is for executives of the company. It is a recording Watt meter, installed in the control house. A joking reference to it is that it records each fresh chew of tobacco taken by the driller.

When a well is started, a recording



Drilling with electric power in the Salt Creek Field

sheet is installed in this meter and it serves for the whole drilling record. This meter puts its record in ink. By consulting this, any official, having access to it and understanding its workings, can tell just what has transpired each hour of the drilling period of the well. The record is hourly and the hand leaves ink constanly.

The recording hand tells the story of useful power on the rig.

So this meter records drilling time and bailing time. If a shutdown occurs, the line of ink swings over to indicate it.

Motors Made Safe

The recording sheet of this meter is sealed, so it will give an accurate history of the uses to which power was put in completing the well. After sufficient drilling has been done with electricity, it will be possible from these Watt meter records to plot curves, showing just how much drilling time, bailing time and all other divisions of time are necessary for the completing of a well.

Control houses have two different types of equipment, of course, one for the double motor drilling powers, the other for the single motor units. A step on the side of safety for each type of drilling power is the introduction of rings to prevent gas from coming in contact with sparks that may be produced at the motors. All motors used by the Midwest have this safety equipment.

Advantages of G-E Unit

The single motor for drilling as adopted by the Midwest is a 75 horse power General Electric Motor. Its advantages have been listed as follows by A. W. Peake, general superintendent of the producing department of the Midwest Refining Company: less control equipment, less slip rings; better bearings, single counter shaft and easier movement from one location to another.

It is fair to note here that officials of the Midwest Company, after considering the two types of equipment, came to the conclusion that the advantages of each offset the disadvantages of the other. So the first purchase of drilling motors included 25 of the two motor, 15-35 horse power Westinghouse, and 25 of the single motor General Electric units.

So far as drillers' preference is concerned, officials of the company have not noticed either type holding an advantage over the other. Some drillers prefer the two motor units, while others prefer the single motor of greater horse power.

Each rig is provided with a 10 or 12 kilowat heater, installed in the dog house. Switch for the heater is on the control house. A circuit is taken from the control house for rig lights, this eliminates a generator. Another circuit from the control house serves the motor driven forge blower.

Easy on the Toolie

This brings the tool dresser into the picture and he has profited more from the use of electric power than any other employe in the Salt Creek field. There is no boiler to tend, no water lines to freeze. It reduces his work down to what his title includes, that of dressing tools. Gas is used for forge heat.

Electric power for drilling has an especial application to the Salt Creek field, due to extreme weather in the winter months. Low tempertatures make it necessary to bury water and steam lines below the frost line, if drilling is to be carried into the winter. Water lines also must be buried.

While electric drilling has not eliminated the use of water, it has reduced it. Warter for dressing bits and for the hole are about the only requirements.

Since no steam lines are required, this sort of equipment has been eliminated.

Other than the elimination of boiler, steam lines, some water lines and the placing of motors instead of engines, the use of electric power differs none from drilling with steam. The rig is the same in either instance.

Electricians Make Repairs

Electric motors are fastened to heavy sills. Endless belts are used between the motor pulley and the countershaft pulley, which in turn is belted to the band wheel.

In the use of electric motor, the Midwest Company follows the policy of having only trained men work on equipment. In case a motor of a drilling rig fails to start or quits while in operation, the driller is under instructions to go on further than testing fuses in his efforts to start the equipment.

If a new fuse fails to put the motor in operation, he calls the electric department. For trouble work, the field is divided into districts, each district having a motor truck equipped with men and tools for ordinary motor repair and adjustment.

The trouble truck for the district is ordered to the well to put the motors back in operation.

The use of electricity is not yet one year old in the Salt Creek field. So the Midwest Refining Company is still doing considerable experimental work. As better operating methods are found, they will be adopted. But the progress thus far is sufficient to warrant the statement that drilling with electricity is successful under the conditions that prevail in the Salt Creek field.

New Heavy Oil Production Found Close to Tampico

Tampico, Tamaulipas.—A new heavy oil field less than 10 kilos west of Tampico has been proven up by the completion of well No. V-29, Caracol, by Grady Venable & Company, for 1800 barrels production at a depth of 2351 feet. The property is 5000 acres in extent and is owned by the Tampico Banking Company.

Venable & Company have drilled 16 tests on the property within the past four years and until 1925, had but little success. This year however, the company completed three wells in the vicinity of No. 29, for a total of 600 barrels daily production, which together with other completions has been giving Venable an average daily production from the property of 900 barrels. The best well prior to No. 29, was No. V-24, a 400 barrel producer but 94 feet deeper, while No. V-4, giving 150 barrels is flowing from a depth of 2681 feet.

The new producerd is considered a shallow well for this district known as the Topila section, and because of its unusual gas pressure of 700 pounds it is considered an extremely good well and it is the general opinion of geologists that it will flow for a number of years before going completely to salt water.

Prior to the completion of No. 29, all production from Caracol was being sold to the Mexican Gulf Oil Company, but it is understood a contract for this new production is being considered with the Pan American Eastern which is also interested in the acquisition of part of the acreage of the hacienda as is the Transcontinental Petroleum Company (Standard of N. J.) which recently took an option on 10 half lots.

Tonkawa Extension to Northwest Possibility

Field's production during last week shows increase due to better methods

By Roye Munsell
Staff Representative

Tulsa, Okla.—While Garber continues to hold much attention, Tonkawa is not without its share. Developments taking place to the west and north of the upper end of the Tonkawa field point to a further extension of the pool to the northwest. The present active field, it will be recalled, is itself an extension in the same direction of the older south field.

The south field found its production as a rule in the shallower sands while the wells completed to the north were very largely in the Wilcox deep sand.

The daily average production from the deep sand in the Tonkawa field for the past week was 38,221 barrels from 115 wells. This 2127 barrel increase over the production of the previous week was due not only to new completions but in a large measure to more efficient operations.

The production in the shallow sand from 665 wells was 16,311 barrels. It is of interest to note that production in the newer deep wells is holding up much better than the wells in the older south field.

This remarkable holding quality is exemplified by the Beverlin lease, N½ 34-25-1w. On January 31st, this year, deep sand production on this lease went over 10,000 barrels and has at no time since been below that mark. This lease has made to date 2,874,203 barrels and since January 31st the daily average production covering the whole period is 14,511 barrels.

The Beverlin lease is in the extreme northwest part of the Tonkawa field as it is now defined and the possible extension of this area is being shown by recent developments to the north and west.

The best well in the "extension" is the Wentz Oil Corp.'s Mahoney No. 3, C NE SE SE 27-25-1w, which picked up the top of the Wilcox deep sand at 4215 feet. When completed at 4240 feet it yielded an initial production of 2809 barrels and is holding up nicely.

Another well already completed on the edge of the new area is the Wentz Oil Corporation's Mahoney No. 4, C SE NE SE 28-25-1w. The sand was found at 4220-4265 feet and started off with an initial production of 1490 barrels.

The first real disappointment in this extension was the Wentz Oil Corporation's Mahoney No. 5, NEc SE 28-25-1w, which found the top of the sand at 4227. At 4240 a showing of oil was had but it was immediately followed by water.

RAINBOW CROSSES RIVER

Tulsa, Okla.—Gypsy Oil Company's Hunt No. 1, center of the east line of the northeast of 21-33-3e, indicates extension of the Rainbow Bend pool in Cowley County, Kansas, across the Arkansas River into Oklahoma. Top of the sand was found at 3210 and drilled in seven feet, and will be deepened. The well flowed 385 barrels in 24 hours. Other locations are being made by Waite Phillips, Gypsy and Derby companies.

It ought to be said that not much was expected of this well because of its particular location and in spite of it, the extension looks very promising.

Tonkawa Extension

At present there are seven wells drilling in the northwest extension to the Tonkawa field:

The Texas Company's Davis 10, C SW SW SW 27-25-1w; 11, C NW SW SW 27-25-1w; 12, C SW NW SW 27-25-1w; 13, C SW NW SW 27-25-1w, and Marland-Cosden's School land 6-A, C SE NE NE 33-25-1w; School land 7-A, C NE NE NE 33-25-1w; School land 9-A, C NW NE NE 33-25-1w.

While to some extent the possible limits of the field will rest on the outcome of these wells, it must ultimately depend upon further tests. It might be added that there is speculation among geologists as to the possibility of a trend found connecting the Tonkawa with the Thomas field. This, of course, is speculation and must be taken as such.

The district between these two fields, however, is due for a play, the forerunner of which is the old Thorton and Bailey well, NE SW 30-25-17w. The Carter Company has taken it over at 2728 feet and are rigging up to drill to the deep Wilcox sand.

Wilcox Sand

Just as the Wilcox sand has considerably increased the production of Tonkawa, it has aided other fields in a like manner. It is probably one of the most productive sands in the Mid-Continent area and developments during the past week indicate that it has not been exhaustively exploited.

The Minnehoma Oil Company picked up the Wilcox in the Lyons-Quinn pool with their test on the NE NE 24-11-11 and are producing 400 barrels a day from it. Many other wells are now being put down or deepened to it in this section.

The Wilcox well at Sapulpa was the Riverland Oil Company's No. 1, NW NE SW 28-18-11. The sand was picked up at 2401 feet and at 4 feet in yielded 5,000,000 feet of gas. Art Moffit and others, Hawkins No. 5, SE NW 7-11-12 in the Henryetta district found the sand at 2369, a new deep level for that pool, and at 5 feet in made 21,000,000 feet of gas.

In the Hallet area, the Selby and Gypsy Oil Companies' Mullendore No. 20, NW 1-20-7 is making 1200 barrels of oil a day from the Wilcox sand at 2894 feet.

Eastern Pipe Line Traffic

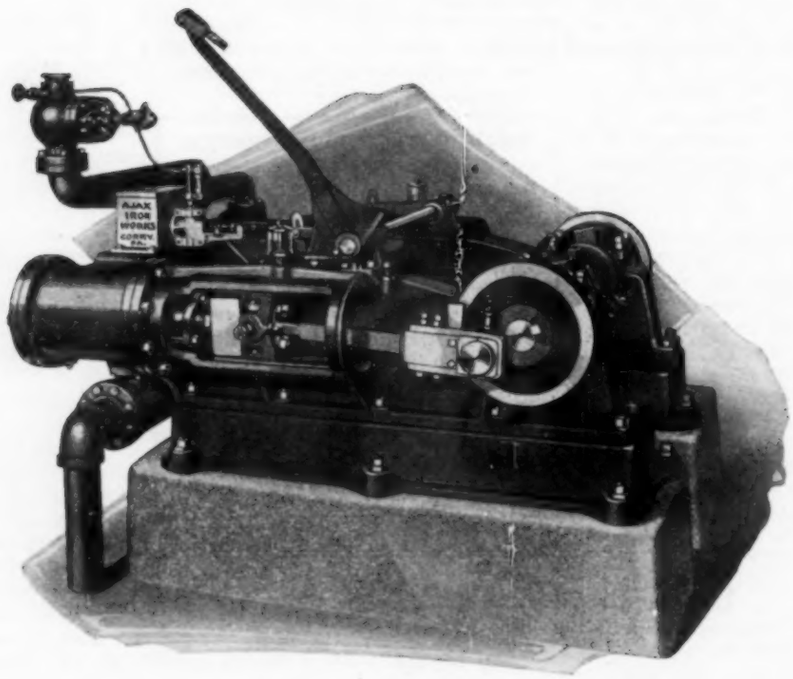
Pittsburgh, Pa.—Crude oil traffic through pipe line systems east of the Mississippi River during July, as compared to the corresponding month last year, was as follows:

	Runs from Wells		Other Receipts		Regular and Other Deliveries	
	July, 1925	July, 1924	July, 1925	July, 1924	July, 1925	July, 1924
National Transit	163,535	195,724	735,318	495,031	796,554	752,510
Total 7 months	1,149,963	1,298,108	4,810,543	*	6,232,692	*
Southwest Penn Pipe	86,681	86,923	669,335	436 773	805,959	579,423
Total 7 months	570,920	578,376	4,590,670	4,956,653	5,127,003	5,619,788
Eureka Pipe Line	367,819	382,209	486,527	304,448	847,863	457,280
Total 7 months	2 436,352	2,566,829	3,264,907	3,405,998	5,476,752	5,873,057
Buckeye Pipe	453,850	429,981	2,097,402	1,925,182	2,308,711	1,959,766
Total 7 months	3,075,630	2,696,331	13,762,620	11,916,141	17,089 408	12,876,928
Indiana Pipe	11,985	14,029	2,301,974	1,710,909	2,319,849	1,709,401
Total 7 months	81 389	84,895	15,000,701	13,075,371	15,113,481	13,217,003
Cumberland Pipe	313,908	372,592	291	236	295,567	335,752
Total 7 months	2,137,690	2,535,567	932	984	2,166,315	2,611,624
New York Transit	19,566	19,200	282,739	640,147	522,403	618,658
Total 7 months	131,823	121,849	3,907,746	3 555,573	3,854,025	4,053,708
Southern Pipe	.....	.....	305,422	70,182	271,588	201,928
Total 7 months	.....	.....	1,362,144	2,319,705	1,502,430	2,750,429
Northern Pipe	.....	.....	467,092	899,681	568 242	826,118
Total 7 months	.....	.....	6,270,320	5,038,380	6,309,753	4,919,513
Illinois Pipe	694,999	728,455	562,570	120,272	1,115,998	863,031
Total 7 months	4,627,872	4,188,970	3,172,967	1,011,572	7,887,840	5,200,008

*Figures withheld for revision.

"IDEAL" TWIN

At Wortham Field the Ideal Engine is 100% ahead of the field.



Insist Upon Genuine

DRILLING ENGINES

Always Ahead of the Field

The Ideal Twin is repeating Ajax history. It is the original twin drilling engine, the first to provide the steady, flexible power for rotary drilling. It not only started first, but it is keeping ahead. Ajax precision manufacture has given to it the smoothness in operation and the long life and dependability that the rotary driller appreciates.

Made by
AJAX IRON WORKS
CORRY, PA.

Distributed by
NATIONAL SUPPLY COMPANIES
In every oil field

AJAX ENGINES

"Reg. U. S. Pat. Off."

Ajax Replacement Parts

34139

Compressors Helped Prolong Life of Santa Fe Springs

Operators have worked out methods of artificially flowing wells after gas goes off

By Wm. V. Gross
Staff Representative

ONE of the fundamental reasons why Santa Fe Springs, California, today is producing better than 54,000 barrels of oil instead of being in the class of "fields that have been," as a number of statisticians predicted two and a half years ago it would be by the fall of 1925, has been the sensible application of air compressors.

A survey made of part of the field September 3 revealed more than 33 wells in a small district being flowed by compressors. This number represents nearly 10 per cent of the 344 producers in the entire producing area, which includes the lateral spread of three fixed sands and one spotted sand, the latter being known as the Foix. Installation of the compressors and the adoption of them to meet the particular needs of Santa Fe Springs' oils has not been the work of any one organization.

Many of the operators have made a study of the petroleum gases found in the three sands, the various pressures experienced at fixed depths during certain periods of a well's life, and have carefully analyzed the oil, experimenting on a well here and there, with the express purpose of bringing about a practical as well as a theoretically correct usage of the compressors.

As an illustration of the part played by the introduction of foreign gas into the producing horizon in maintaining a high daily output in the field, a brief sketch of the treatment of one of the typical Santa Fe Springs wells is given.

Typical Well

Eagle No. 1 of the Pacific Petroleum Corporation was completed at 3809 feet, in 109 feet of the Bell sand, September 7, 1922, with an initial yield of about 4500 barrels. The well flowed naturally from this sand until the production had declined to 560 barrels some six months later. It was then decided to deepen the well to the Myers sand, with the result that it was carried down to 583 feet of the sand topped at 4138 feet. On recompletion at this depth the seemingly greater pressure associated with the Myers stratum, together with the cleaner, higher gravity oil there, resulted in a 9000 barrel flush, which was necessarily pinched back to 5000 barrels of 35.9 gravity oil running about 120 degrees.

A second time the well flowed consistently with a gradual decrease in daily yield until Christmas, 1923, when water encroachment put an end to its production. After plugging back to 4463 feet and trying to get rid of an accumulation of emulsion between the perforation and the sand for three weeks, the well finally was made to produce 300 barrels of oil per day, which gradually decreased until November 15, 1924, the well made but 183 barrels. Consequently, the plugging back operation was instituted again, with the result that the well was made to produce from a middle sand at 4000-4064 feet, where a daily yield of 450 barrels was obtained.

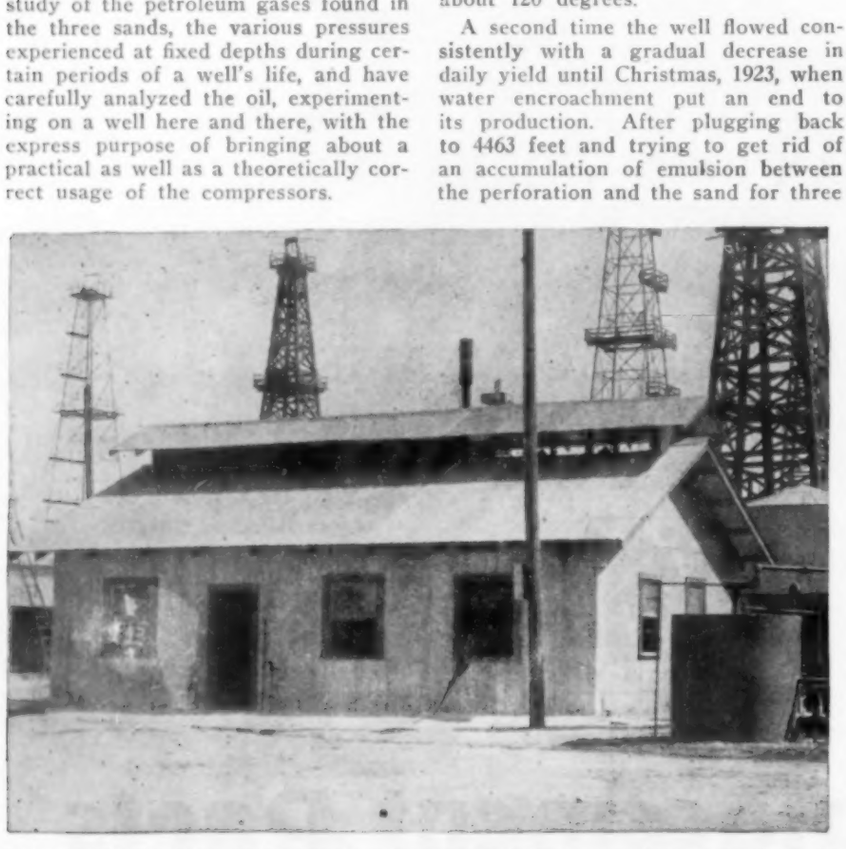
It was when the flush of the latest sand had decreased to 140 barrels per day, gotten out with a swab, that the operators had to introduce some high pressure gas to combine with the little remaining gas and act as a lifting agent.

Introduction of Gas

The path of the gas, as shown in the accompanying sketch, was from the reservoir into the pump which sent it into an intercooler. Thence it was carried to a high pressure cylinder which forced it down into the well between the oil string and the tubing, coming in contact with the fluid level several feet above the top of the perforation. At this point, the gas introduced into the oil string began to combine with the gas in the oil and the fluid column was lowered. As the column reached the perforation, the combined gases flowed toward the low pressure point, the perforation, creating at the same time a current or flow of the oil which they saturated. At this point, the tubing head pressure being considerably less than the pressure at the bottom of the tubing, the wet gas and oil rose in the tubing and passed into the gas trap, suspended well up on one side of the derrick. Once in the trap, the gas separated to a certain degree from the the oil and passed on back either to the scrubber or to the gasoline plant, while the oil gravitated from an outlet at the bottom of the trap to a run tank situated below the trap.

Generally speaking, the gas left in the more thoroughly exploited portions of the sands in Santa Fe Springs is not of sufficient quantity to flow the wells, but it is present in a volume large enough to interfere seriously with beam pumping. The forced combination of the high pressure gas with that left in the oil and gas sands of the field has two decided virtues. When the high pressure gas comes in contact with that in the producing horizon, there is naturally an expansion, resulting in a lowered temperature of the oil which not only makes it easier to handle, but considerably lessens loss of

(Continued on page 46)



Compressor house of the Pacific Petroleum Corporation, located on its lease in the Santa Fe Springs. This shelter houses one 12x20 gas cylinder steam vacuum pump to pull the gas from the well traps, two 6x12 high pressure—12x12 low pressure compressors of a standard make

Means of Improving Oil-Well Plunger Pump Efficiency

Other problems encountered in getting maximum recovery from deep sands

By Lester C. Uren,
Associate Professor of Petroleum Engineering, University of California

WITH the depletion of our older, and relatively shallow, oilfields and the necessity for securing new production from deeper horizons, much attention is being given to the improvement of oil well pumps in order that they may function satisfactorily under the more difficult conditions imposed by increased depth.

Until recently, practically all of the world's petroleum was secured from wells less than 3000 feet deep, whereas horizons are now being explored to depths of from 5000 to 7000 feet in some of the more prolific fields, and it seems probable that the greater part of the future supply must come from depths in excess of 3000 feet. While much of early production in a new field is obtained by natural-flow methods, when the stimulus of high gas pressure fails, recourse must be had to some method of pumping.

The perfection of a pump capable of economically and efficiently lifting oil from depths ranging from 3000 to 7000 feet is therefore a matter of prime importance to the oil producing industry. This paper is offered as an estimate of the present state of development of the oil-well plunger pump and as a review of the general principles involved in its operation in deep well pumping. A design for a new type of oil well pump embodying several novel features, is also described.

The pump commonly used in lifting oil from wells in American practice is of the simple displacement type, in which a plunger equipped with a working, or traveling, valve is given a vertical reciprocating motion in a stationary working barrel. The latter is suspended from the surface by tubing, submerged in the well fluid, and is equipped at its lower end with a stationary standing valve; Figs. 1 and 2 illustrate two common types of oil well pumps. The simple cup-leather packed plunger of Fig. 1 has its counterpart in the long, hollow, cylindrical, polished steel plunger of Fig. 2; otherwise the two types are identical in the form and arrangement of their essential parts. Fig. 2 shows the additional feature of a "garbutt rod" to facilitate removal of the standing valve with the plunger when repairs are necessary. The valves are usually of the ball and disk-seat type (see Fig. 4). The cup-leather packed plunger is suitable for use in shallow wells; but in deep well pumping, where fluid pressures are high, or in cases where fine sand must be handled with the oil, the polished steel plunger is preferred.

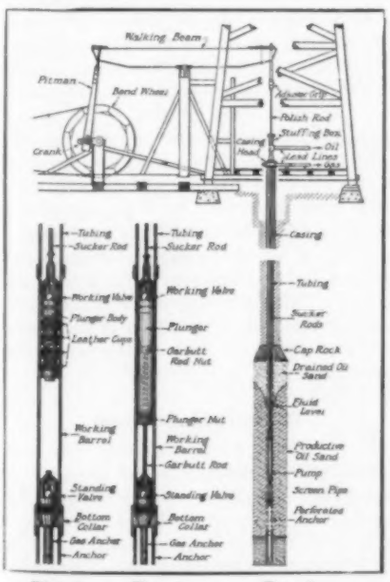


Fig. 1 Fig. 2 Fig. 3.

Fig. 1.—Leather-packed type of plunger pump.
Fig. 2.—Steel-plunger type of plunger pump.
Fig. 3.—Power connections for plunger pumping.

The pump plunger is actuated by a column of "sucker rods" extending through the tubing on which the working barrel is suspended from the top of the plunger to the surface. Just below the casinghead, the column of sucker rods connects with one end of a "polish rod," which operates through a stuffingbox in the top of the tubing, the upper end being suspended with the aid of an "adjuster grip" from the end of a walking-beam (see Fig. 3). A side outlet in the tubing, just below the stuffingbox, connects with the "lead line" through which the oil lifted by the pump is led to a gas trap, storage tank, or sump. An oscillating motion is imparted to the walking-beam by a pitman and crank actuated by a power-driven band wheel. A steam, gas, or oil engine or an electric motor may be the source of power. For the pumping of comparatively shallow wells operated in multiple by a system of pull lines from a central power station, a "pumping jack" is substituted for the band wheel-pitman-walking-beam combination, but multiple pumping is not adaptable, generally, to wells exceeding 3000 feet in depth, with which we are here primarily concerned.

Working barrels are customarily made of cast iron, about ½-inch thick and ranging from 4 to 7 feet in length, depending on the length of stroke desired. The bore of the working barrel is as nearly cylindrical as possible and is highly polished on its interior surface. The D. & B. type of working barrel is equipped with a liner of tubular steel, which can be readily replaced when the plunger clearance becomes too great as a result of wear of the polished surfaces. The Axelson working barrel has a liner made up of short separate and readily removable cast-iron sections, so that one part of the liner may be replaced without the necessity of renewing all parts.

Plungers are simple steel cylinders, usually about 3/16 inch thick, highly polished on the exterior surface and ground to a close fit with the inside polished surface of the working barrel. For shallow well service, the plunger is often made up of leather cups mounted on a short steel body (see Fig. 1). Leather cups are also occasionally used in connection with long steel plungers in deep well pumping (see Fig. 5); but if so used they should be placed between two steel plungers to prevent their distortion under the excessive pressure. Sulphur in the oil will destroy leather cups in a short time, so that they must be frequently replaced.

Valves and seats are commonly made of hardened tool steel and the ball is carefully ground to fit the beveled interior edge of the disk-shaped seat. The latter is reversible so that either side may be placed uppermost. The cage, or crown, enclosing the ball has either three or four wings and is threaded so that it may be rigidly attached to the top of the plunger, in the case of the working valve, or to the tapered body of the standing valve. For use in pumping oil carrying corrosive

The accompanying paper was read by the author at the meeting of the Petroleum Division of the American Institute of Mining and Metallurgical Engineers at Casper last week and is printed here through the courtesy of the organization. It will appear in the proceedings of the meeting in the September issue of Mining and Metallurgy.

The length of the discussion has made it impossible to include it all in one issue of The OIL WEEKLY and it will be concluded in the next issue.—The Editor.

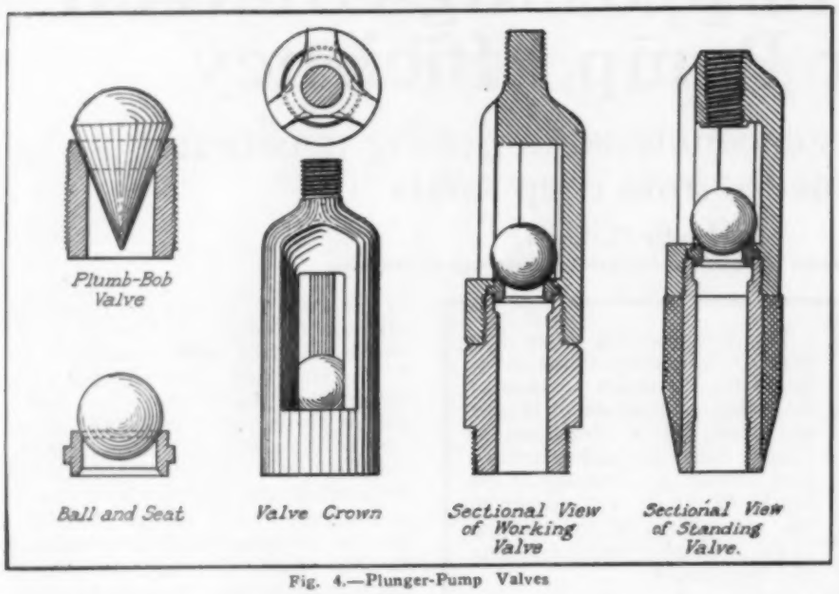


Fig. 4.—Plunger-Pump Valves

ground water, the pump valves and seats are occasionally made of brass or bronze; brass-lined working barrels are also used in such cases.

Sucker rods are of steel, cylindrical in form, and the 20 or 30 foot lengths are connected by box-and-pin tapered joints of the form illustrated in Fig. 6. Diameters of the rods range from 9/16 to 1 inch. The threaded ends are sometimes welded to the rods but a superior type of rod is made by upsetting the ends of the rods, shaping the wrench square and joint reinforcement, and cutting threads directly thereon. In another type of sucker-rod joint, the rods are made alike at each end, the individual rods being connected by recessed and threaded couplings. This form of joint has the advantage that most of the wear in service falls on the couplings, which can be cheaply replaced without the necessity of cutting and welding the rods. The pump plunger may also be operated by a continuous wire cable connecting with the walking beam, but this form of power connection is less desirable than the solid rods in deep well pumping because of its greater elasticity.

Tubing is of steel, somewhat heavier than standard pipe, and ranges in diameter from 1¼ to 4 inches, depending on the size of pump. The couplings are longer than ordinary and are recessed at the ends for facility in connecting and disconnecting. For deep wells, upset-end tubing has greater strength.

Operating Cycle of Oil Well Plunger Pump

The plunger makes from 15 to 40 up-and-down strokes of from 24 to 60 inches per minute. The speed is controlled by that of the engine or motor, while the length of stroke is adjustable by placing the wristpin connecting the crank with the pitman, in one of several holes in the crank, at varying distances from the center of rotation (see Fig. 3). The suspension mechanism for the polish rod is adjusted so that, in ordinary operation, the lower end of the pump plunger is never within 6 inches of the top of the standing valve.

Assuming that the pump plunger is at the lower extremity of its travel, as the up-stroke begins, reduction in pressure is effected in the space between the two valves, the lower valve opening and admitting oil through the standing valve into the working barrel. Influx of oil continues during the up-stroke of the plunger; but with the succeeding down-stroke, the standing valve closes and the oil in the barrel is subjected to pressure which lifts the working valve, the oil being displaced through the working valve as the plunger descends. The succeeding up-stroke of the plunger lifts the oil, thus displaced, into the tubing and draws a fresh supply of oil into the working barrel for repetition of the cycle. Each successive stroke of the plunger forces additional oil into the tubing until it overflows into the lead line at the surface. It should be noted that the pump lifts oil only during half of its cycle, that is, on the upstroke of the plunger.

Principles of Plunger Pumping

While the cycle of operation of the plunger pump is not complex and its working parts are simple and few, when applied in deep well pumping, various difficulties are experienced which lead in many cases to gross inefficiency and loss of production. A proper understanding of these losses necessitates a study of the principles of plunger pumping and of the difficulties experienced in operation and maintenance of the equipment.

Motion Afforded by Walking Beam

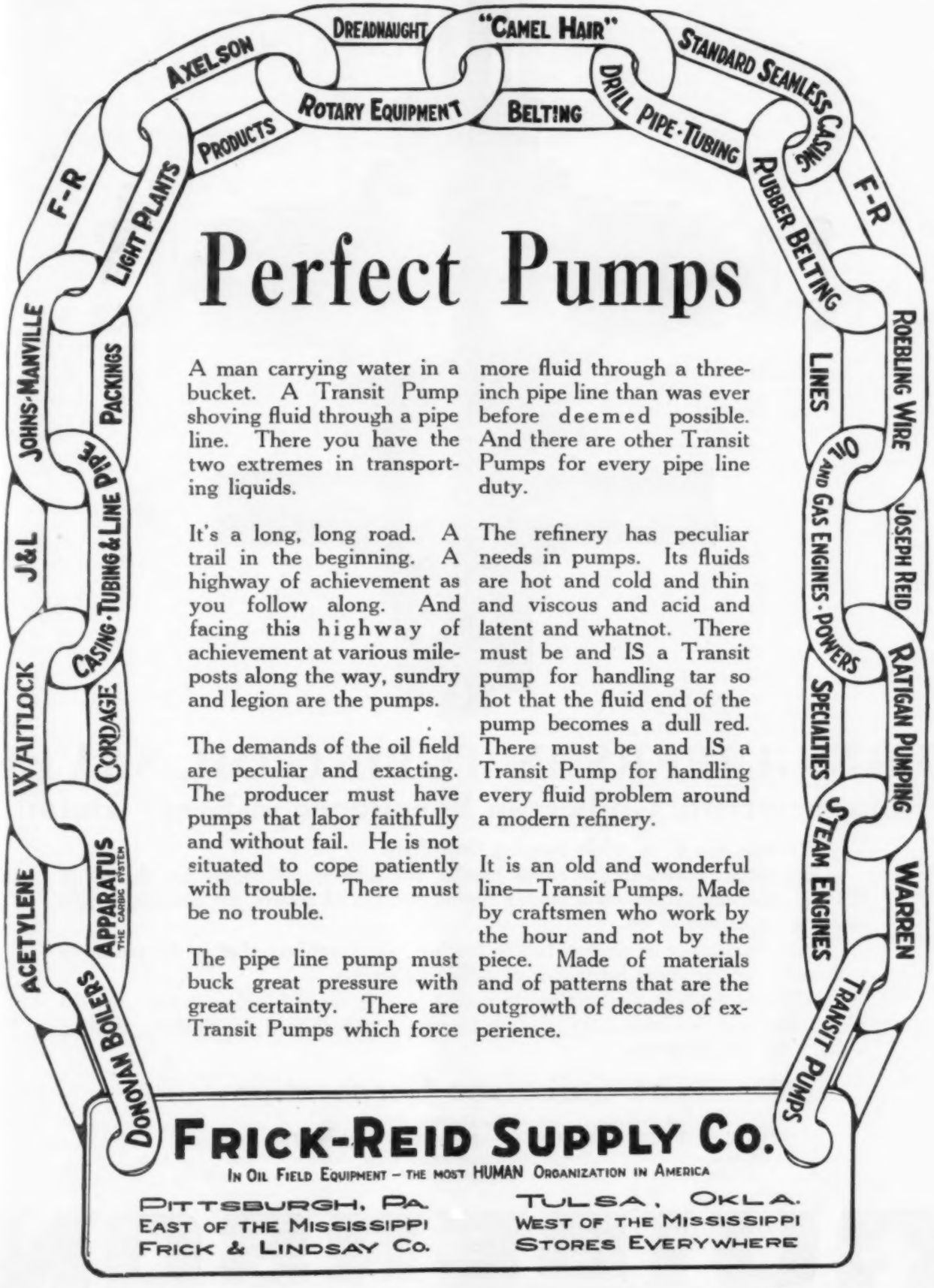
A study of the motion afforded by the crank, wristpin, pitman, walking-beam, and sucker-rod combination shows that it is well adapted to the purpose of operating the plunger type of pump, if the parts are properly proportioned and if the speed and length of stroke are adjusted to the depth of the well, submergence, and viscosity of the oil. Theoretically, if the crank revolves at constant angular velocity and if the pitman is infinitely long, the plunger of the pump moves in simple harmonic motion. The plunger is uniformly accelerated from a position of rest, at the upper end of its stroke, to a maximum speed, at the mid-point of the stroke; then uniform negative acceleration results in gradually bringing the plunger to rest at the lower end of the stroke. The up-stroke is accomplished with an equivalent sequence of movements. This is an ideal motion for plunger pumping, but it is seldom perfectly realized because of the tendency of the engine to increase its speed on the down-stroke of the rods, because the short length of the pitman contributes some eccentricity to the motion, and because the elasticity of the sucker rods does not permit the plunger to respond precisely to the movement of the walking beam. Partial correction of these disturbing factors can be effected by counterbalancing the walking-beam so that the same amount of work is performed on the up-stroke of the rods as on the down-stroke, by using as long a pitman as possible and sucker rods of large diameter, so that the stretch of the rods is reduced to a minimum.

Sucker-rod Failures

Sucker-rod failures are due to many causes which result in overstressing, wear, and eventual parting of the column of rods connecting the pump plunger with the walking-beam. The rods are subjected to a combined static and dynamic load. The static load results from the downward pressure of the column of oil in the tubing above the pump plunger and the dead weight of the rods themselves. The dynamic load is equivalent to the force necessary to overcome the inertia of the long column of oil and rods that must be accelerated from a position of rest with each up-stroke of the pump, to a speed of from 80 to 800 feet per minute, depending on the length of stroke and number of strokes of the beam per minute. This resistance of the oil column to upward translation is augmented by the viscous drag of the oil on the metal walls of the tubing.

Sucker-rod Stresses

In deep-well pumping, only the larger sizes of rods are used because of the great stress put upon them. Assuming that 1-inch rods are used in a well 4000 feet deep, operating a 2.75-inch plunger (3-inch pump), pumping oil having a specific gravity of 0.95, the static oil load will be 8480 pounds, and the dead weight of the rods will add



Perfect Pumps

A man carrying water in a bucket. A Transit Pump shoving fluid through a pipe line. There you have the two extremes in transporting liquids.

It's a long, long road. A trail in the beginning. A highway of achievement as you follow along. And facing this highway of achievement at various mileposts along the way, sundry and legion are the pumps.

The demands of the oil field are peculiar and exacting. The producer must have pumps that labor faithfully and without fail. He is not situated to cope patiently with trouble. There must be no trouble.

The pipe line pump must buck great pressure with great certainty. There are Transit Pumps which force more fluid through a three-inch pipe line than was ever before deemed possible. And there are other Transit Pumps for every pipe line duty.

The refinery has peculiar needs in pumps. Its fluids are hot and cold and thin and viscous and acid and latent and whatnot. There must be and IS a Transit pump for handling tar so hot that the fluid end of the pump becomes a dull red. There must be and IS a Transit Pump for handling every fluid problem around a modern refinery.

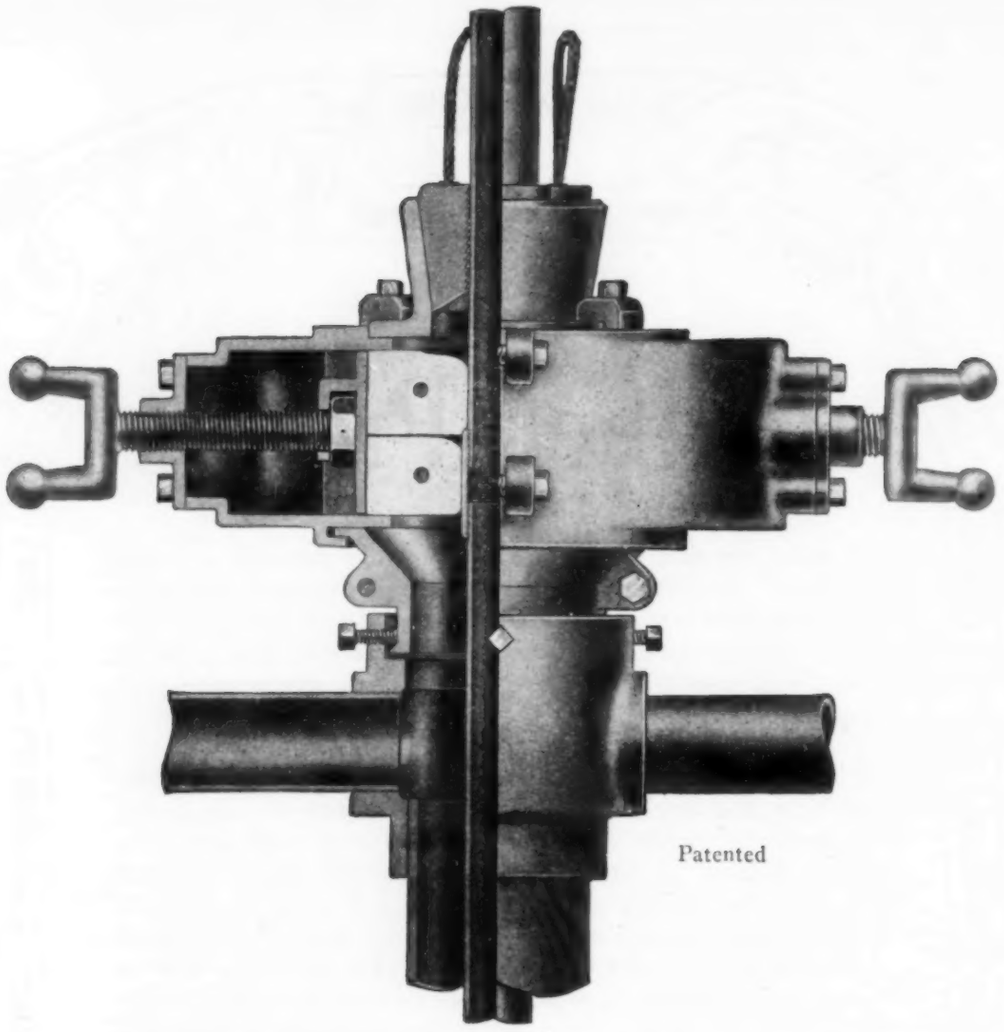
It is an old and wonderful line—Transit Pumps. Made by craftsmen who work by the hour and not by the piece. Made of materials and of patterns that are the outgrowth of decades of experience.

FRICK-REID SUPPLY CO.

IN OIL FIELD EQUIPMENT – THE MOST HUMAN ORGANIZATION IN AMERICA

PITTSBURGH, PA.
EAST OF THE MISSISSIPPI
FRICK & LINDSAY CO.

TULSA, OKLA.
WEST OF THE MISSISSIPPI
STORES EVERYWHERE



Patented

THE GUIBERSON TUBING OIL SAVER

Characteristic Guiberson Excellence in Every Detail

Prevents loss of oil while running the tubing.

Illustration shows tubing collar passing the rubbers. Rubbers are the result of long experimentation—will readily permit passage of collars, yet provide a tight seal against escape of oil.

Permits passage of packer, tubing catcher, etc., rubbers being momentarily withdrawn into recesses by means of adjusting screws.

All parts made in two sections to permit placing around tubing at any time desired. An ideal "running mate" for our Control Head Packer, for packing flowing wells. Ask for literature.

The Guiberson Corporation

Box 1106, Dallas, Texas

CALIFORNIA BRANCH: 1506 Santa Fe Ave., Los Angeles

402 W. First St., TULSA | 318 First Nat'l Bank Bldg., HOUSTON | 506 Trust Bldg., NEWARK, O.

GUIBERSON

BETTER BE SAFE THAN SORRY

Say you saw it in The OIL WEEKLY

11,400 pounds, making a total weight for the oil and rods of 19,880 pounds. To this must be added another load representing the force necessary to move the plunger in the working barrel. This will probably account for 100 or 200 pounds of additional static load if the clearance of the plunger is small enough for efficient operation under high pressure; say, 120 pounds to make the total static load a round 20,000 pounds.

When estimating the dynamic load on the sucker rods, the force necessary to accelerate a mass equivalent to the total static load, from rest to the maximum upward velocity attained during the up-stroke, must be computed. If the pump makes twenty-five 36-inch strokes per minute, the acceleration will be 10.27 feet per second and the force necessary to accomplish this is 6380 pounds. To this must be added the force necessary to overcome the frictional resistance of the oil on the walls of the tubing, a force difficult to estimate precisely, but estimated at approximately 340 pounds for oil of 0.5 poise viscosity, flowing at a maximum velocity of 300 feet per minute through 3-inch tubing. We thus have a dynamic load of 6720 pounds, which, added to the static load, gives a total load on the upper sucker rods, at the maximum velocity of the up-stroke, of 26,720 pounds. This, for a rod of 1-inch diameter, is equivalent to a unit stress of 34,021 pounds per square inch of cross section and represents a safety factor of only 1.8, in terms of the breaking strength of the metal ;the steel is stressed almost to its elastic limit (about 35,000 pounds per square inch). It is to be noted that the more important of these static and dynamic loads vary directly with the depth of the well and that if the total load on the rods for a 6000-foot well were computed for the conditions just assumed, the elastic limit of the steel would be considerably exceeded.

Strain on Rods Due to Sanding Up of Pump

The greatest strain of all comes on the rods when the pump becomes clogged with accumulated sand and the plunger binds in the working barrel. At such times, the full power of the engine, with the additional mechanical advantage provided by the band wheel and crank, is brought to bear upon the rods; if the pump plunger is unable to respond, the rods snap, either under direct tensional strain on the up-stroke or by buckling and compressive strain on the down-stroke.

Fatigue of Rod Metal

Failure of the rods in pumping service is probably often due to fatigue of the metal. While the rods are supposed to be always in tension, the tension on the down-stroke (equivalent to the weight of the rods and plunger less the friction of the plunger on the working barrel and the viscous drag of the oil in the tubing on the rods) is comparatively small in comparison with that prevailing on the up-stroke. This continual variation in tension, because of reversal of motion every 1.2 second (25 strokes per minute), is exceedingly destructive in its influence on the molecular structure of the steel. Investigations have shown that in reciprocating mechanisms of this class, the life of the steel in the connecting-rods is directly proportional to the number of reversals. Operating the beam more rapidly than the plunger can respond in the working barrel throws an added strain on the rods, in that the lower end of the column of rods may actually be under compression on the down-stroke. This results in more rapid fatigue of the metal and destructive bending stresses and causes buckling of the rods against the tubing, causing abnormal wear on both.

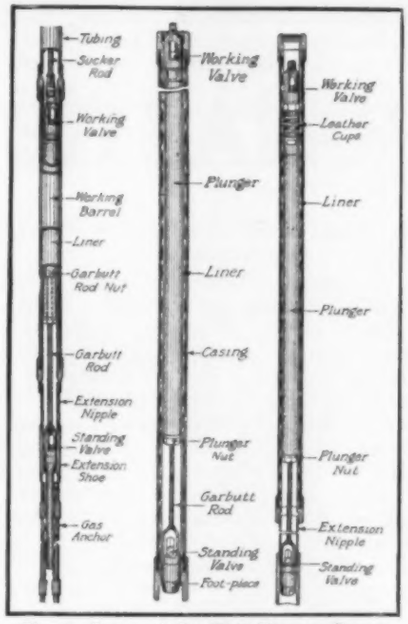


Fig. 5—Types of Oil Well Plunger Pumps

Wear of Rod Metal

Aside from the great tensional strain and fatigue to which the rods are subjected, they are also weakened in continued service by wear; the result of rubbing against the tubing and the scouring action of sand carried by the oil. Most of this wear falls on the enlarged sections at the joints, which may be remedied by upsetting and redressing, or by cutting off the worn end and welding on a new box or pin and wrench square. In the top joint illustrated in Fig. 6, most of the wear falls on the coupling, which can be readily replaced. Sucker rods often fail at defective welds, and particular attention is given by successful rod manufacturers to the condition of the metal in the vicinity of welds and at the forged and threaded end sections. Rods sometimes part in the well by unscrewing at some joint not properly made up, or the joints may unscrew as a result of excessive vibration if the motion is too rapid.

From the foregoing, it is evident that sucker-rod failures in deep well pumping are caused primarily by overstressing of the steel as a result of the selection of rods too small in cross-section to resist the loads imposed, to the use of too rapid a stroke, to fatigue and loss of metal by wear in service, and to abnormal strains occasioned by "sanding up" of the pump. The remedy would seem to lie in the use of rods of larger cross section and slower pumping speeds and elimination of sand from the pump.

Tubing Difficulties

The tubing on which the working barrel is suspended is not subjected to such destructive influences as are the sucker rods, but tubing failures cause occasional interruptions in routine pumping operations. These are chiefly the result of wear, largely from the frictional contact of the oscillating rods against the inner surface of the tubing. Holes are occasionally worn through the tubing by the rods so that leaks develop, or the tubing may be so weakened that it pulls apart under its own weight. Difficulties of this sort are particularly common in crooked holes, where the rods may rub continually on one side of the tubing, or where "whipping" of the rods results from too rapid a stroke, or where the plunger fits so tightly in the working barrel that it does not respond readily to the downward stroke of the rods.

Inefficiency of Pump

Inefficiency of the pump may be due to a variety of causes, the more common of which are the result of worn plungers, working barrels, and valves, the presence of sand or free gas in the pump, inadequate submergence of the standing valve, too rapid a movement of the plunger and elastic elongation of the column of sucker rods, which shortens the effective stroke. Because of these inefficiencies, the pump will often deliver less than half of the volume of oil indicated by the theoretical plunger displacement.

Valve Leakage

Valves and seats, though made of a special chilled steel, are often subjected to rapid and irregular wear, causing oil leakage under the high pressures prevailing in deep well service. The efficiency of a pump is directly dependent on the security of the valves against oil leakage. Fine sand suspended in the oil is especially destructive and in some wells, in which the sand problem is particularly trouble-

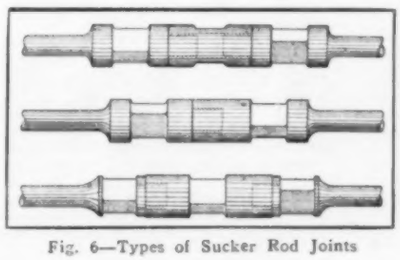


Fig. 6—Types of Sucker Rod Joints

some, valves and seats last but a few days. Aside from leakage of valves from actual wear of the metal balls and seats by the scouring action of sand, a few grains of sand caught between the ball and its seat will permit much of the oil to be forced back through the valve, with marked loss of efficiency.

Plunger Leakage

Wear of the polished surfaces of the working barrel and plunger will also permit oil leakage around the plunger and reduce the pump efficiency. New pumps intended for deep well service are sometimes finished with a clearance between the working barrel and plunger of only 0.00025 inch, but normal wear gradually increases this; if sand finds its way between the polished surfaces, destruction is rapid. The clearance between the plunger and barrel should be sufficient to permit the plunger to respond readily on the down-stroke of the rods, otherwise the rods immediately above will be placed under compression and buckling results, with attendant abnormal wear on both the rods and the tubing.

It is difficult to make a long working barrel or plunger that is absolutely straight and uniform in diameter, so that generally the wear is not uniformly distributed. This effect can be minimized through the use of a rod rotor, a device attached to the walking-beam and polish rod, causing a part revolution of the rods and plunger with each stroke of the beam, thus distributing the wear caused by inequalities in alignment and diameter of the plunger and working barrel.[2] In the multiple-plunger pump, it is sought to correct this difficulty by using two, three, or four closely spaced, short plungers with flexible connections, instead of a single long plunger.[3]

Influence of Temperature on Plunger Clearance

A carefully made working barrel and plunger do not necessarily maintain their shop clearance when placed in service in the well. Prevailing ground temperatures at depths of 4000 or 6000 feet are commonly much higher than normal atmospheric temperatures. Temperatures of from 125° to 175° F., which are not unusual in deep wells, will cause expansion of the plunger and working barrel, and the two, being usually of different materials and different thickness, will not expand to the same degree, so that the desirable clearance provided in the shop becomes greater or less than it should be for best results. Increase in the clearance space will result in greater leakage around the plunger, while decreased clearance throws an additional frictional load on the sucker rods. In extreme cases, the pressure developed between the two polished surfaces may prevent proper lubrication of the plunger so that it overheats, and the situation is aggravated to such a degree that the plunger binds in the barrel and the rods part.

Influence of Oil Pressure on Plunger Clearance

It seems probable that under deep-well conditions, the clearance of the plunger in the working barrel may also be somewhat altered by distortion due to oil pressure. The oil pressure developed between the polished surfaces of the plunger and barrel by the static head of, say, 4000 feet of oil in the tubing, would be about 1600 lb. per square inch, a force sufficient to accomplish perceptible compression of the plunger and expansion of the working barrel, thus increasing the clearance and inducing oil leakage. Placing the working valve at the bottom of the plunger instead of at the top will remedy this difficulty, as the oil pressure will then be applied within the plunger, expanding the thin metal cylinder until it is pressed tightly against the polished interior surface of the barrel. If a loose-fitting plunger is used, there will be but little resistance to movement in the working barrel on the down-stroke, while the fluid pressure may be relied on to expand the plunger to a tight fit on the up-stroke.

Influence of Natural Gas on Pump Efficiency

Placing the working valve at the lower end of the plunger instead of at the top is also advantageous in that it reduces the space between the valves in which gas may accumulate. Oil drawn through the standing valve usually contains dissolved gas under pressure. Reduction of pressure, due to vacuum conditions within the working barrel on the upstroke of the plunger, causes much of this gas to be forced out of solution, assuming the gaseous phase and becoming occluded or entrained in the oil. Some upward segregation of this gas from the oil in the working barrel occurs, even in so short a time as that consumed by the upstroke of the plunger, so that when the plunger begins its down-stroke, the working valve is in contact with gas instead of oil. The gas must be compressed to the pressure of the superimposed column of oil in the tubing before the valve may open and permit upward displacement of the oil in the tubing; the effective length of stroke of the plunger is thus appreciably shortened. If a large amount of gas accumulates in the working barrel, the working valve may remain closed, the plunger merely expanding and compressing the gas between the two valves with each up and down-stroke. Reducing the clearance volume between the two valves reduces the opportunity for a "gas lock" to form in this way and tends toward increased pump efficiency.

Large amounts of free gas may be excluded from the pump by the use of a gas anchor; this is a section of perforated pipe screwed to the lower end of the standing valve body (see Fig. 3). The perforations through which the oil is passed to the standing valve of the pump are placed at such depth below the surface of the oil in the well that very little gas may find its way into the pump. In the case of the Zublin gas anchor, the oil is admitted to the standing valve through a single round hole, care being taken to proportion the diameter of the hole to the size of the pump valves. Most of the gas, in separating from the oil, finds its way upward through the annular space between the tubing and the perforated liner and is permitted to flow to the surface between the pump tubing and the well casings.

Influence of Submergence on Pump Efficiency

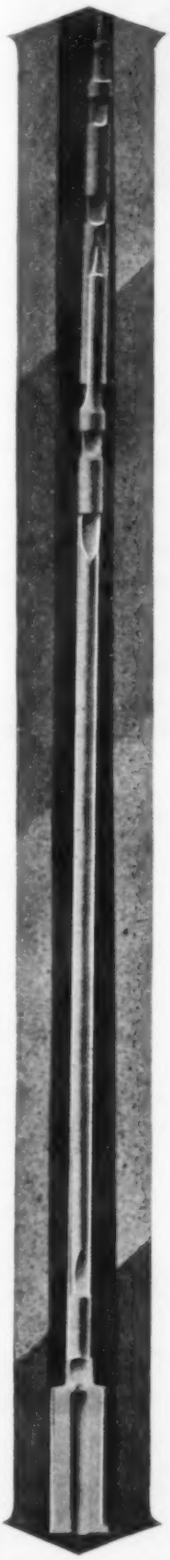
Another important cause of pump inefficiency is failure to maintain adequate submergence. Oil flows through the standing valve to fill the working barrel by reason of the difference in pressure existing within and without the pump. The suction effect of the rising plunger can never exceed 14.7 lb. per square inch; if this is insufficient to draw the oil in rapidly enough to fill the working barrel, additional static pressure must be provided within the oil by maintaining the fluid level of the well at an elevated position above the standing valve.

The submergence necessary for efficient results will vary with the viscosity of the oil, the frictional resistance offered by the valves and pump openings, and the speed and length of stroke of the pump. When it is remembered that the oil must lift the standing valve and flow through the restricted orifices of the pump in from 1 to 2 seconds, the possibility of pump efficiency resulting from failure of the oil to follow up into the working barrel as rapidly as the plunger ascends is readily understood. Many oil producers plan to maintain a submergence of about 50 feet on the standing valve when conditions permit. Experiments have shown that a greater submergence than this is of little advantage, even in pumping heavy, viscous oils with small pumps operated at high speed. However, few operators have any precise information concerning the fluid levels in their pumping wells and gross inefficiencies doubtless result in many cases from lack of knowledge of this important factor.

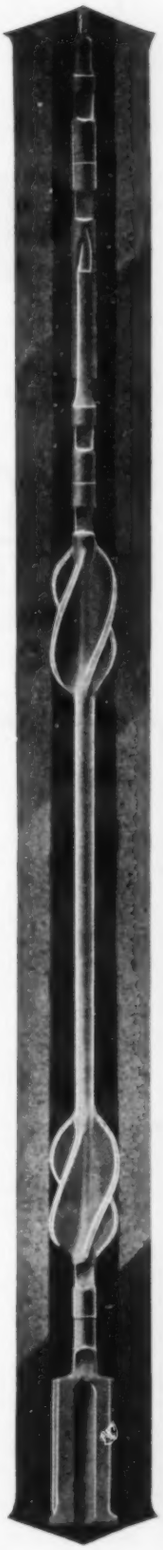
The static pressure of a column of oil in the well sufficient to provide reasonable submergence for the pump will often oppose the influx of oil from the reservoir sand to such a degree that the productivity of the well is greatly reduced. Determination of the most advantageous fluid level thus re-

[2] L. Suverkrop: "Plunger Rotators," Summary of Operations, California Oil Fields (October, 1924); California State Mining Bureau.
[3] J. A. Zublin: "Pumping Deep Wells in California," Paper read before Fort Worth Meeting of American Petroleum Institute (December, 1924). Oil Weekly (Dec. 19, 1924) 35

A BAD SITUATION



Is encountered when the bit deflects from the "straight and narrow" and starts a CROOKED HOLE. Isn't it much better to prevent rather than remedy this condition? Certainly — and it can be done by using a



JAQUES FORGED STEEL DRILLING CONNECTION

Made from the Solid under a 2,000 Ton Hydraulic Forging Press, Free from Welds

Here are a few of the many advantages gained by the use of the Jaques Winged Drilling Connection:

1—Prevents crooked holes.
2—Lessens jar breakage.
3—Cleans hole for bailer.
4—Allows more than one screw before running bailer.
5—Prevents cutting of the drilling cable.
6—Eliminates the possible cave-in.
7—Undue wall friction eliminated.
8—Reduces the whipping of drill cable.
9—Tools always in the center of the hole for fishing.
10—Gives the tools a rotary motion, preventing key-seating.

The Winged Drilling Connection fills the hole, guiding the bit, but allows the mud to pass through the openings between the wings, thus not only correcting, but preventing, crooked holes.

The superior workmanship together with the many distinctive advantages over the common auger stem, place it in a class by itself.

"If CONTINENTAL Sells It There Is No Better"

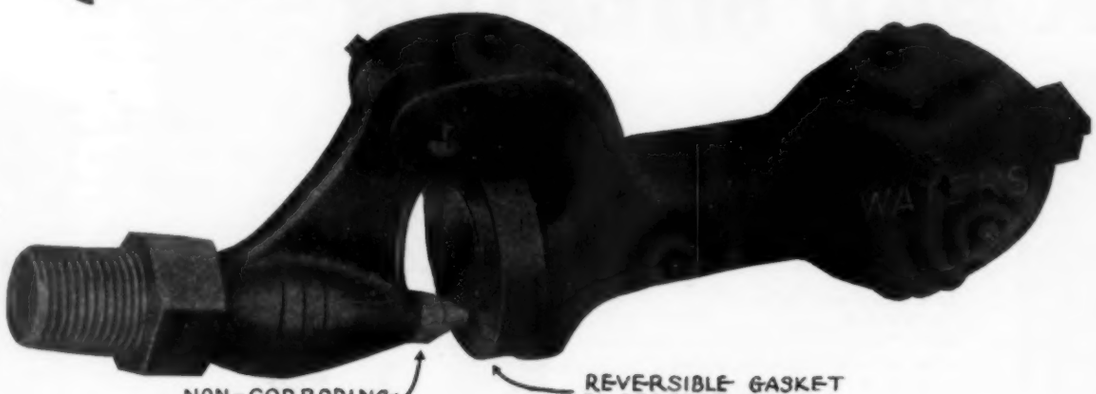
THE CONTINENTAL SUPPLY COMPANY

General Offices: St. Louis
Export Office: 2 Rector St., New York
London Office: Finsbury Court, Finsbury Pavement, London E. C. 2, England

More Than 70 Stores in the Oil Country

CONTINENTAL

The WATERS GAUGE COCK



Smith
SEPARATOR COMPANY
Chestnut-Smith Bldg.
Tulsa, Okla.
Telephone 6221

Two Exclusive Features—the non-corroding Monel Metal Nozzle and reversible disk—make it the instant choice of boiler men who know.

Ask for our illustrated bulletin. Stocked by all supply stores

New York Office Export Representative: Oil Field Equipment Company
30 Church St., New York. Cable Address: "Oilfield" N. Y.

London Office: Perkins & Macintosh Petroleum Tool & Boring Company, Ltd.
25 Bishopsgate. Cable Address: "Oleborers" London

California Office:
2041 E. 38th St., Los Angeles California

Texas Office:
5400 Columbia Ave., Dallas, Texas

The Advertiser and the Purchaser

THE Advertiser keeps the purchasing agent from having to look through the haystack to find the needle. Advertising extends the buyers' sources of supply and leads him direct to an interested bidder on the order.

Advertising is of as much use to the buyer as it is to the seller. It is a connecting link of equal value to both.

The best firms of the Southwest use the Southwestern Purchaser to carry their message of merchandise and service. Buyers can well look to its pages for a continuously expanding source of supplies.

The SOUTHWESTERN PURCHASER
514 Santa Fe Bldg.
Fort Worth Dallas Houston

quires consideration of two opposing factors; low fluid level results in greater influx of oil into the well but low pump efficiency, and vice versa. The author has shown[4] that the fluid level which premits a maximum yield of oil from the sand may be approximately computed, and has proposed the use of a fluid-level indicator designed to show the position of the oil surface in the well while the pump is at work. Unless the producing sand is thick, it may be impossible to maintain the most desirable fluid level from the standpoint of securing maximum flow from the reservoir sand, without sacrificing pump efficiency through insufficient submergence. In such cases, if the formation immediately beneath the oil sand does not contain water, it is often desirable to drill a pocket beneath the oil sand into which the pump may be lowered when low fluid levels are desirable.

Influence of Plunger Velocity on Pump Efficiency

Within the limits determined by the physical ability of the oil to flow through the standing valve and follow the plunger in its upward movement, the capacity of the plunger pump is determined by the rate of plunger travel. An upward plunger displacement of 120 feet per minute will pump twice as much oil as would be lifted with an upward plunger travel of 60 feet per minute. This relationship, however, is influenced by the compressibility of the oil itself, which operates to retard prompt response of the valves, thus shortening the effective stroke. The plunger speed must be adjusted so that the valves have time to function properly and so that the plunger may sink through the oil in the working barrel on the down-stroke, without buckling the sucker rods. It is not only essential that the plunger speed be kept within reasonable limits, but the number of reversals must be reduced to a minimum; that is, the inefficiencies resulting from reversal in tension of the rods and operation of the valves are multiplied directly by the number of strokes. Such considerations demonstrate conclusively the advantage of a long slow stroke.

As the pump efficiency falls off as the rapidity of stroke increases, there must be a certain rate of plunger velocity that will give maximum production of oil. This must be determined by the operator for each individual well, and if the pump is incapable of keeping pace with the potential productivity of the well, a pump of larger diameter should be installed, or a longer, slower stroke provided. Pump diameters are usually limited by the free working space within the well casing, and where it has been necessary to secure additional pump capacity, operators have been working toward a longer stroke. Several long-stroke pumping devices, attachable to the crankshaft and pitman or to the walking-beam, to give the rods a longer stroke, have found practical application in deep-well pumping within the last year or two. They provide a pumping stroke of 72 inches in some cases, instead of the usual 24 to 36 inches. Working barrels must necessarily be longer when long-stroke pumping is practiced, an 11-foot barrel being desirable for a 72-inch plunger stroke. One long-stroke pumping device actuated by hydraulic pressure, recently applied in a few deep wells in the California fields, accomplishes ten 12-foot strokes per minute. When long-stroke pumping is practiced, the angular displacement of the polish rod makes the use of a walking-beam yoke desirable. Such a yoke serves to keep the polish rod in alignment and provide a straight upward pull on the rods for all positions of the beam.

Influence of Valve Design on Pump Efficiency

The design of the pump valves to accomplish more positive action, to distribute wear, and to reduce resistance to movement of the oil has received considerable attention on the part of pump manufacturers. Fig 4 illustrates the usual type of valve—a polished steel ball on a bevel-edged, reversible, annular, disk-shaped seat. This valve offers considerable resistance to movement of oil through it, for if the valve is lifted but a short distance off its seat, the oil must abruptly change its direction of flow and force its way through a restricted, annular-shaped opening surrounded by angular corners and recesses, which induce eddy currents and encourage the release of gas from the oil and the formation of emulsions if water is present. Some manufacturers are featuring so-called "oversize" valves of the same type, which provide a larger valve opening and therefore reduce these difficulties somewhat. There has also been a tendency toward the introduction of radically different types of valves, such as the plumb-bob valve (also shown in Fig. 4), and the Parker valve, a beveled, disk-shaped valve mounted on a cylindrical stem. However, these special forms have found but limited use and do not show promise of replacing the spherical type.

When the working valve is placed on the lower end of the pump plunger, it is necessary to eliminate the garbutt rod. This also reduces the risistance to flow of the oil, particularly where it passes through the lower end of the plunger, and increases the plunger displacement, hence the pump capacity. In pumps having this feature, other means must be provided for removing the standing valve with the plunger when repairs are necessary. For this purpose, a special locking device can be provided on the lower end of the plunger, which makes it possible to engage the crown of the standing valve. The "standing valve puller," as this device is called, engages the crown of the standing valve when the plunger is lowered and turned to the right by turning the rods from the surface.

Influence of Elastic Elongation of Sucker Rods on Pump Efficiency

Elastic elongation of the sucker rods during the up-stroke of the plunger will result in serious reduction in the effective length of stroke in deep wells. In the case of one-inch rods, the tensile stress on the up-stroke was found to be about 34,000 lbs. per square inch of cross section. This is the maximum stress developed in the rods near the surface that must support the dead weight of the entire column. At the lower end, near the pump plunger, the stress would be much less—only 19,270 lbs. The average stress for the entire column on the up-stroke would, therefore, be about 26,600 lbs. Similarly, the average tensile stress for the down-stroke of the pump is computed as approximately 7100 lbs. per square inch; hence, the net increase in stress with each reversal of stroke will be about 19,500 lbs. per square inch. Computation of the elastic elongation of a one-inch steel rod, 4000 feet long, under this stress, indicates an elongation of about 31 inches, which means that if the polish rod is given a stroke of 36 inches, the effective stroke of the plunger will only be five inches, representing a direct loss of efficiency of 86 per cent. A 48 or 60-inch stroke will give greater efficiency.

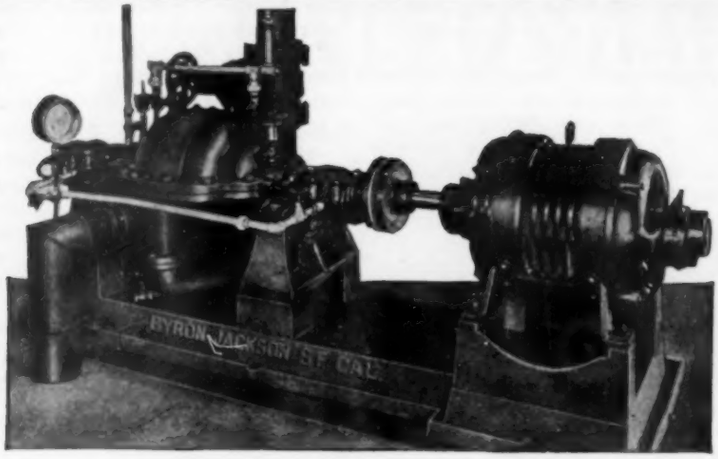
Influence of Sand Influx on Pump Efficiency

Sand entering the well with the oil is detrimental from every point of view. If it finds its way into the pump, it rapidly abrades the working surfaces and may accumulate in the oil passages so that movement of the oil through the valves is entirely prevented, necessitating withdrawal and cleansing of the rods, tubing and pump. If the sand accumulates in the well about the pump, it materially restricts the free access of oil from the reservoir rock to the well and to the pump. Sand should be excluded from the well by every possible means.

If influx of sand is a serious problem, it may be necessary to maintain abnormally high fluid levels in order to create additional back pressure on the producing stratum and restrain the sand movement. In pumping fluid from unconsolidated sands, working barrels are often suspended hundreds of feet above the source of the oil, the well being compelled to produce against the static pressure of the intervening column of oil. To prevent the fluid level from falling to a point where sand influx would be imminent, the oil holes in the gas anchor are so placed that the pump will suck air when the oil surface approaches the critical level. In such cases, the pump merely skims off the surface oil and is fairly free of sand, but the flow of oil from the sand is greatly reduced in comparison with what would be possible if it were practical to maintain a lower fluid level.

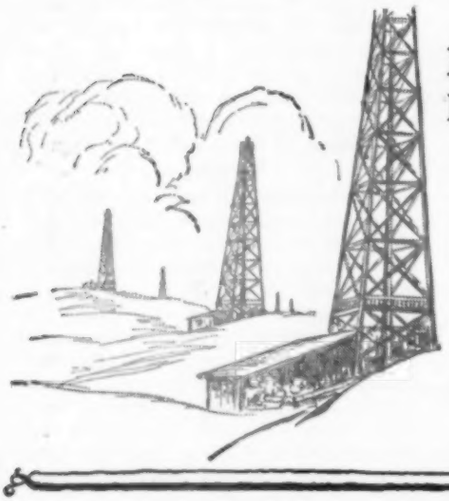
The development and use of sand-

[4]The Significance of Fluid Level in Oil Well Pumping, issued as Paper No. 1410-G, with Mining and Metallurgy, February, 1925.



Byron Jackson
Crude and Fuel Oil Pumps

The Byron Jackson Pump Mfg. Co. has specially designed a centrifugal pump for the collection of crude oils. This pump has won instant favor throughout the oil fields and continuous performance under great obstacles has demonstrated its superiority for this work. Write for descriptive data.



BYRON JACKSON PUMP MFG. CO., INC.

Factory and Main Office
Berkeley, California

Branches
San Francisco, Los Angeles, Visalia
Salt Lake City, Portland, Ore.

BYRON JACKSON Service PUMP MFG. CO.

"OIL FLOW IN PIPE LINES"

By R. S. DANFORTH, Contains charts as follows:

THE PRESSURE LOSS is shown at once for any capacity in barrels per hour or gallons per minute of any Saybolt or other viscosity oil. The charts are based on tests by Messrs. Stanton & Pannell of the National Physical Laboratory of Great Britain and checked by many experiments of oil companies in the United States.

THE VISCOSITY CONVERSION CHART shows the equivalents of the Saybolt Universal and Furol, Engler, Redwood, Redwood Admiralty, Absolute and Kinematic viscosities.

THE HORSE POWER CHARTS show the power required to pump against any working pressure with any efficiency of pump and drive.

Also the conversion of capacities in barrels per day, barrels per hour, gallons per minute and cubic feet per second.

Price $3.00 Post Paid

THE GULF PUBLISHING COMPANY

P. O. Box 1307 **Houston, Texas**

control devices either to effectively screen the sand from the well without reducing the drainage effect, or to permit the pump to take care of large quantities of sand in suspension in the oil without clogging or excessive wear of the pump parts, would make possible increased production of oil through the maintenance of more appropriate fluid levels. The various types of screens available on the market are only partly effective in excluding sand from the pump. The author has proposed the use of a gravel-filled cavity about the well within the oil sand as a means of increasing production and reducing sand incursion.[5] If the size of the gravel particles is properly proportioned with respect to the size of the sand grains, the latter bridge over the apertures between the gravel particles and the main mass of gravel and the well pump at its center remains free from sand incursion. The writer has also patented a process and apparatus for forming such a cavity about the well and filling it with gravel.[6] Several devices are employed in connection with oil well pumps, which are intended to enable them to separate the sand from the oil or to pump the sand to the surface along with the oil. One of these, called an "anchor dump," is designed to drop the sand out of the working barrel as it settles in the gas anchor below the standing valve. The manufacturers of several oil well pumps claim that their particular pumps are especially adapted to the handling of oil carrying sand in suspension, by reason of certain peculiarities in design.

Much may be accomplished in avoiding the effects of accumulated sand, by designing the pump to avoid changes in oil velocity. Enlarged recesses above the standing valve are particularly apt to accumulate sand, which eventually clogs the valve. The carrying capacity of oil for sand varies as the square of its velocity; hence, by building pumps with an oil channel of slightly smaller cross section than usual, the carrying capacity of the oil for sand will be greatly increased. There is some advantage when sand must be pumped with the oil, in using a long working barrel together with a plunger no longer than the length of stroke employed. This combination permits the plunger to operate with its upper end extending out of the working barrel, so that sand grains settling about the working valve have little opportunity to find their way between the plunger and the barrel; and as the plunger is no longer than the stroke, any sand that may be dragged in between the two surfaces at the top will have an opportunity to escape at the bottom during the same stroke and will not score the polished surfaces by continued abrasion.

[5]Increasing the Production of Petroleum by Increasing the Diameter of Wells. Issued as Paper No. 1364-G with Mining and Metallurgy, October, 1924.

[6]Patent No. 1530221, issued March, 1925.

To be concluded in next issue

California's Downward Trend Checked

Increases in few fields off-set losses; Richfield and Athens fields extended

By Wm. V. Gross
Staff Representative

Los Angeles, Calif.—With substantial gains in the Dominguez, Santa Fe Springs, and Torrance fields, offsetting production decreases in Inglewood, Long Beach, Huntington Beach and Rosecrans, the state's downward trend has been temporarily checked. For the week ending September 3, the daily yield of crude in California was approximately 686,250 barrels.

Dominguez Output Up

Dominguez, one of the older fields of the state, registered 1000 barrels increase in the daily average production. This jump is attributed to the completion of three wells, with an aggregate flush of about 1800 barrels, by the Union Oil Company on its Callendar and Hellman leases. In addition to these completions, the Shell Company's Reyes 27-A and four wells being drilled by the Union Oil Company are nearing completion and the field is expected to hold its own among the producers for some time to come. The Marland Oil Company's Dominguez No. 7, deep test, continues drilling at about 6095 feet, and while it holds the attention of the field operators, ti can not be said to be improving with increased depth. For the past 1000 feet, the well has logged alternately sand and shale and shale streaked with sand.

Richfield Extended

One of the most interesting wells brought in during the past week is the Thomson 6 of the General Petroleum Corporation in the Richfield field. This well, which was completed for 670 barrels at 4657 feet, opens up for speculation and development an area of about 500 acres northeast of the Richfiled proven territory. The producing horizon of Thomson 6 is yielding 24 gravity oil with a cut of less than 1.2 per cent, and the casing pressure gauges 520 pounds, against 235 pounds tubing pressure. Production of the Richfield district has dropped to 12,000 barrels per day, but five years ago, the field was one of the state's major producers. Completion of the General Petroleum's well in territory that has remained practically untouched for five years is expected to bring a revival of activity there.

New Athens Extension

The producing area of the Athens-Rosecrans field was extended 400 feet to the east wtih the completion this week of the Fullerton Oil Company's Athens 1, which flowed 800 barrels of 33.1 gravity oil from 4330 feet. The oil, which is coming from 135 feet of sand, cuts less than two per cent. The fact that oil has been produced on Fullerton's lease, located on Way and Delphi streets, is a contradiction to those who have contended there was nothing to be gotten from exploitation of this section of the eastern part of Athens-Rosecrans. Despite the fact that 13 completions, three of which were work-overs, added a flush of about 400 barrels to the field's production during the week ending September 4, there was a drop of 1000 barrels in the daily average of the district, accounted for by the settling of older production and the number of wells off production while they are being reconditioned.

Inglewood Backs Down

Inglewood's temporary spurt last week in which the field registered a 1500 barrel increase in the daily average was followed by a 1700 barrel drop in the field's daily output this week, bringing the yield down to 106,800 barrels per day, coming from 137 wells, as against 135 last week. The initial production of the field also showed a decrease from that of the previous week.

Aside from routine development at Inglewood, Oscar Howard is attempting to prove out a Culver City, or western, extension of the field. His Dominguez 1, slated for a deep test, has gone below 4872, according to field reports, but has encountered nothing of any significance. The hole will be drilled deeper in order to make a thorough test of the formations in that locality.

Important Wildcats

Among the wildcats, those located at Belvedere Gardens, three miles east of the center of the city of Los Angeles, and the Petroleum Securities' Narboone 1 at Palos Verdes are attracting the most attention. The Superior Oil Company's wildcat at Belvedere Gardens is located on what many believe to be a structure, and it is not improbable the structure may be a continuation of the one found in the old Los Angeles field. The company has secured a community lease embracing about 50 acres, and, according to agreements made with those owning the land, development work will be under way shortly. Shallow production is looked for at around 2500 feet. The Superior, as well as outsiders, expect quite favorable results from the development work. The promising wildcat of the Petroleum Securities Company at Palos Verdes is not to enjoy a monopoly on exploitation work there, as it was learned this week the A. T. Jergin's Interests had spotted a location for a test well in that section which is about three miles south of the Torrance field. As the development there is in the beginning stage, nothing upon which to base an opinion as to the possibilities of the region will be revealed for some time. Within two weeks, however, the Petroleum Securities' Narboone 1, which is drilling around 1000 feet, should begin to log something significant.

Production From Lower Depth at South Vernon

Wichita Falls, Texas.—Oil production in flush volume was obtained from a slightly lower level than heretofore known to exist in the South Vernon field when Humble Oil & Refining Company's Stephens 29 flowed at the rate of 400 barrels daily from sandy lime formation at 2378-90 feet. This well is located in close vicinity to completed producers in the 2300-foot pay, and is about 70 feet deeper than any other producer in the field. Humble's Castlebury 19, located about one-half mile to the southeast, is swabbing 120 barrels daily while cleaning out to pump from sandy lime pay at 2286-2321 feet, with a total depth of 2325 feet.

Wildcatting in Wilbarger County is on the decline, and six failures were reported during the past week. The Milham Corporation's W. T. Waggoner 1, located in a wildcat block in Section 31, Block 4, is showing for a small oil producer after drilling into sandy lime at 2250 feet. This wildcat is slightly more than half a mile south of a small wildcat pumper from the 2300-foot sand in Section 42.

The Big Indian Oil & Development Company's second try for oil production in the eastern part of Cooke County developed salt water and only small traces of oil after bailing sand at 3449-55 feet. This test is on the F. Lester land, located about one mile north of the same concern's high-gravity oil producer, which furnished about 20 barrels daily from sand at 3519-29 feet.

Lockport Field Extended 2000 Feet by 2550 Barrel Well

Houston, Texas.—The Lockport (Lake Charles) field was extended 2000 feet west and slightly to the south Sunday, September 6, when the Vacuum Oil Company's Miller No. 3, a semi-wildcat, began flowing 2550 barrels of pipe line oil from a 4402-foot sand. The well was late Tuesday gauged at the same flow as the initial production, on a five-eighth and three-quarter-inch choker. No indications at that time were seen of a decrease in the production.

The present output of the Miller No. 3 increases the production of the Lockport field more than twenty fold, the former daily average of the field having hung around 110 barrels for some time, the whole of which was the yield of the Miller No. 1, also a Vacuum well, which has been producing since September 9, 1924, when it was completed for a flush yield of 2500 barrels.

The Miller No. 3 is located 694 feet west and 300 feet north of the southeast corner of the northwest quarter of section nine. It is 2,000 feet southwest of the Miller No. 1, and 1800 feet west of the Miller No. 2, which blew out and cratered at 4380 feet.

Activities around the Lockport field at present include the drilling of seven tests, all semi-wildcats. With the exception of the Phoenix Development Company No. 1, operated by the Marland Oil Company of Texas, all of these tests are being drilled by the Vacuum.

The Phoenix B-1 is milling out the back pressure valve preparing to take a core at 5570 feet, where late in August the deepest sand known in the Gulf Coast territory was picked up. A test of the sand last week showed salt water, and plans of the company are to go deeper. The Phoenix C-1 is shut down for a few days at 4532 feet. The Farquar No. 2 is drilling at around 4350 feet in sandy shale; the Miller No. 4 is drilling near 3400 feet in gumbo; the Lockmore No. 3 is drilling at below 2800 feet in sand rock, and the Freiberg & Wolf is waiting on a standard rig at 2458 feet. The Frien Lake State No. 1 is drilling a water well at 99 feet.

Results in wildcatting in the Texas Gulf Coast during the past week have brought into the limelight other tests which promise to be producers. The Rio Bravo Oil Company, operators of two wildcat tests in this section, last week reported a good sand discovered in both tests. The Settegast No. 1, drilling near Pierce Junction, in Harris County, encountered a show of oil late last week at 3847 feet, and casing is being set for a test of the sand. The Cortinas No. 1, also of the Rio Bravo, which is drilling near Anchorage, in Atascosa County, has a show of oil at around 3300 feet, and preparations for setting casing for a test were begun early this week.

On the opposite side of Houston from the Pierce Junction field, the Retrieve Oil Company will late this week determine the value of a sand encountered in the Sid Westheimer No. 1 test, a wildcat test 10 miles southwest of the Humble field. A promising sand was struck in this test two weeks ago at 2618 feet, and the work of reaming and setting casing for a test of the sand has been under way since that time. A test is scheduled for the latter part of this week.

Wildcatting for gas is of late playing a prominent role in the Gulf Coast area. The Houston Oil Company has, during the past month, begun operations on three gas tests in Refugio County, two tests in Live Oak County, and one in Jackson County. Completions of any of these tests for good gas producers would serve to augment the supply of the field, which is to supply commercial gas for the pipe line now being built by this company from Refugio County to the Houston Ship Channel.

Devil's Steel Hand

Note the Junk this Hole Contained!

Contractor M. L. McClain started out on a fishing job on the Lambert Oil and Refining Company's NW SE 1-33-8E, near Cedarville, Kansas, for two 8-inch Swan Underreamer lugs. Complications arose. Cavey hole caused loss of first string of tools. Three slips out of a combination socket were lost in the hole in fishing for this string. Then lost tools were successfully fished and an 8-inch Devil's Steel Hand cleaned out the three slips and two lugs, shown above, in less than a tower!

The Devil's Steel Hand continues to pile up unequaled records for fishing jobs in every part of the oil country. It simply won't give up until the hole is clean.

Brown Welding & Machine Co.

Breckenridge, Texas.

Tulsa Rental and Sales Branch:

424 East Second St., Tulsa.

Representatives of the Acme Fishing Tool Company with complete stocks of their tools at Breckenridge and Woodson, Texas, and Tulsa, Oklahoma.

DEVIL'S STEEL HAND and PITCHFORK

Rocky Mountain Activities Reach High Point in August

Several promising tests throughout district hold interest at this time

By Special Staff Correspondent

Casper, Wyo. — Completions during August in the Rocky Mountain region again broke the monthly record for the year—if not for all time—a total of 200 wells having been finished during the period. During July 164 wells were completed. Initial production recorded in August jumped to 28,185 barrels as compared with 26,755 barrels in July. New production in Montana fell off slightly during August, when compared with that recorded in July, but Wyoming and the miscellaneous states more than offset this with a substantial gain. The Salt Creek field with 76 completions continues to set the pace for the district, although the Kevin-Sunburst field, with only 44 completions for the month, yielded slightly more than twice as much in initial production. These two fields are now producing more than two-thirds of all the Rocky Mountain crude. In the Salt Creek field, the Midwest Refining Company and its associates are completing wells at the rate of about 50 a month. Initial production recorded in Colorado during August was 3300 barrels. Eight wells were completed of which four were dry. This state has the highest percentage of drilling wells of any of the miscellaneous states but completions have been few and rather drawn out all through the year. New Mexico yielded six producers with initial production of 1200 barrels from a total of nine completions. Completions and initial production in the other states were negligible.

The Midwest Refining Company has scored again in its Lakota sand drilling campaign in the Salt Creek field by bringing in a very large producer on the southeast quarter of section 26-40-79. The well has not been officially completed but is flowing more than 4000 barrels per day with the bit 60 feet in the Lakota sand. Little was known of this unusually prolific sand until the Midwest interests recently decided to give it a thorough test. The first well came in with a production of more than 6000 barrels daily. Other wells were completed and the initial production of each of these was about 4000 barrels daily. These interests have 11 other wells now drilling for the deeper sands in the field. Practically all of the wells completed in the Lakota sands are shut in. The oil is not needed at present by the refineries operated by the Midwest interests.

The Continental Oil Company seems to have a gas well in the second sand on section 2-39-29, Salt Creek field, although production may be encountered after the sand is further tested. The well is located ideally for an oil well and officials of the company are at a loss to know just why gas rather than oil was encountered. The second Wall Creek carries oil all over the field and very few wells have been drilled without production in some quantities. The sand has been penetrated 20 feet with nothing more than gas present.

Southwest Wyoming

Activity is constantly increasing in the vicinity of the La Barge field in southwestern Wyoming. Many of the larger companies have been attracted to this region by the success of recent tests. The Beneficial Oil Company is drilling at 760 feet after having struck a 100 barrel well from a sand at a depth of 763 feet. The Transcontinental Oil Company has attained a depth of 2100 feet in the La Barge field. This company started a very large hole and the test may be carried to 5000 feet.

The Midwest Refining Company, drilling for account of the Jupiter Oil Company and itself, seems to have encountered water on top of the Lakota sand in its test of the Powder River structure, section 35-26-85. A shale pocket was found several hundred feet above the Lakota and oil was baled from the hole. Water is standing in the hole. If the water proves to be coming from the Lakota sand, the test, in all probability, will be drilled to the Sundance formation. This test has been the source of much trouble for the company and the Lakota sand was the primary object in view.

The New York Oil Company has attained a depth of 5130 feet in its deep test of the Boone Dome structure, 40 miles west of Casper. The well was originally started with cable tools and these were used until the hole stood at 4800 feet. A diamond drill was substituted and is now making hole at a comparatively fast rate.

The Marland Oil Company, drilling several miles west of the Salt Creek field, has had several showings of oil in its test on section 11-40-79. This test is located on what is commonly known as the Dug Out structure. It is claimed that the oil is standing four or five hundred feet in the hole but this has not been confirmed. Other wells have been drilled in this region with varying success. Some of the tests struck small quantities of oil in the second Wall Creek sand, from which formation the Marland well is also showing oil.

The Midwest Refining Company is preparing to drill a well in the heart of the Salt Creek field in an effort to penetrate all of the oil bearing sands which underlie the structure. Section 35-40-79 has been chosen as the location for the test. This well will be watched with interest by other companies holding leases near the test. The geological data obtained from such a test will be of much value to the government in determining the potential value of the lower sands.

New Mexico

The Continental Oil Company apparently has opened up a new field on the Table Mesa dome in New Mexico. On a lease recently branded as a failure, the company struck oil in commercial quantities at a depth of 1325 feet. This structure is located less than 10 miles south and west of the Hogback field. The Producers & Refiners Corporation recently drilled a test on one side of the lease but struck water at several different depths. Geologists of the Continental interests recently recommended that another test of the structure should be made. The oil is 62 gravity, or lighter than straight run gasoline. Other tests probably will be made if water does not encroach.

Union Oil Company officials have announced that the company's Scott No. 1, located on Wellington dome, will be built from the Baxter Basin duction. The well promised to be a good producer but has failed to flow consistently.

Rumors to the effect that a gas line will be built from the Baxter Basin (Wyoming) gas field to Salt Lake City have not been confirmed, although several large interests have seriously considered such an undertaking. The Baxter Basin gas field is one of the largest in the Rocky Mountains and the open flow is well over 100,000,000 cubic feet daily. The distance to market and the rough country between the field and Denver or Salt Lake City have been factors to discourage capital from undertaking the task.

Twelve wells were completed in the Kevin-Sunburst field during the past week. Most of these wells were small. The Essex Oil Company completed a 500 barrel well on section 30-35-1 at 1275 feet. This company recently completed other large producers.

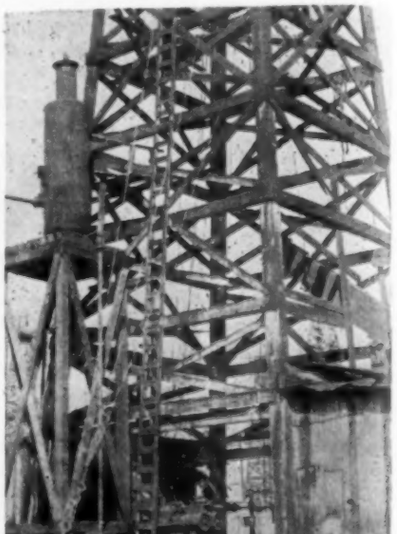
Compressors Helped Prolong Life of Santa Fe Springs

(Continued from page 32)

some of the more volatile constituents. In addition to this, the affinity of the two gasses makes it possible to extract the dry gas easier than it could be extracted under other conditions. For instance, one of the above mentioned company's wells flowed very violently by heads so that it was difficult to handle the wet gas at the gasoline plant. A flow device and compression plant were installed and gas introduced into the fluid. The result was that well's production increased from 300 barrels of oil to 500 barrels of oil and 650 gallons of gasoline.

Among the types of flow devices that have been used in the field, the more successful have been those manufactured by the Loomis Oil Well Control Company, Jones and McLaughlin, Giant Fluid Elevator Company, and Lee Wilkinson of Santa Fe Springs. However, as the operators have been constantly studying the situation locally the field men have grasped the theoretical and practical sides of the combination by pressure of the two gasses, home-made flow devices are growing in popularity, and seemingly functioning with as much efficiency as those previously obtained from the pioneering manufacturers. Most of the compressing plants are equipped with either Ingersoll-Rand compressors or the San Francisco Pneumatic. These plants vary in size according to number of wells depending on them and the pressure required.

At present, about 140 pounds pressure is required to flow oil from the Bell sand at 3700 feet, under normal



View showing installation of gas trap as typical in Santa Fe Springs, California, oil field. The trap is placed well up the side of the derrick, giving it an elevation greater than that of the run tank which permits the utilization of gravity rather than an aditional pickup pump in carrying oil to the tanks

conditions. If a well producing from the Bell sand is shut in, the sand will build up a pressure of approximately 500 pounds at the casing head. Generally about 180 pounds is required to flow a well from the middle sand. However, the pressure required to flow a well from the Myers sand, found at 4138-4721 feet, is not proportionately greater because oil coming from the Myers sand is lighter, being a higher gravity.

Especially among the deeper production, a great deal of trouble has been had lately in Santa Fe Springs because the amount of pressure required to make the wells flow is greater than the rock pressure. This condition has resulted largely from the fact that the light oil contains a large percentage of gasoline and that the locality has been subjected to town lot drilling, both of which have contributed to the rapid exhaustion of the gas, pulling it down from 1000 pounds pressure common in the early days of the field to the 100 pounds or less of rock pressure today.

Possibility of Oil Between Lockhart-Luling Indicated

Lockhart, Texas.—A third oil field in Caldwell County looms as the result of a rich live oil showing picked up in the Jordan-Thomas test at 1500 feet in the Serpentine formation. The well is located five miles east of Lockport on the Jerimah Roberts survey, half way between the Luling and Lockhart fields. It is on Plum Creek.

Simple, isn't it?

Remove the Liners Only!

H & W Slips

Remove the liners, insert new ones, a moment's operation, and go right ahead with the work! There's no delay or loss of time to re-sharpen dull drill pipe slips when you use H. & W. They have renewable liners. For speed and economy they are unequalled.

H. & W. Slips seat firmly and fully between the rotary table bushing and pipe, thereby eliminating any tendency to crush or crimp pipe.

Two body sizes fit all sizes of pipe from six-inch down

Complete information on request

BAASH-ROSS TOOL COMPANY

5512 BOYLE AVENUE PHONE DELAWARE 2144

LOS ANGELES CALIFORNIA

BRANCHES

LONG BEACH ··· BREA ··· TORRANCE ··· TAFT ··· ROSECRANS

P.O.BOX 604 - HOUSTON, TEXAS - PHONE PRESTON 4270

South Liberty Rapidly Drops To Background

Stopping of drilling by companies owning untested acreage leaves southern section in doubt

By Wallace Davis
Staff Representative

WITH only four wells now drilling, one new location made during the past month and a slump of more than 7000 barrels in daily average production seen within the past five weeks, the South Liberty field, which has, since late in April of this year, stood out as the leading producing field in the Gulf Coast territory, is fast declining in its output, and stands today in third place with a strong possibility of dropping to fourth within the near future.

Last week the producers of Liberty field combined aggregated a total of 14,045 barrels per day on the average, the lowest yield of this field since the peak of production during the week ending May 23, totaled 28,760 barrels. This low figure for Liberty is the result of a rapid decline, which suddenly began early in August, after the field had shown good signs of a second big increase. At that time the daily average output of the field rose from something under 18,000 barrels to 21,500 barrels.

The sudden downward trend of Liberty field's production might be considered a phenomenal slump since the nature of the field's output for two months prior to this drop had remained practically stationary, with fluctuations following the trend of completions. The present drop, however, has continued almost daily without a check for the five week period in which time the output of 21,500 barrels per day has dropped to the present mark.

Hull Leads

The Hull field, undoubtedly the best consistent producer in the coastal area, leads the list in the Gulf Coast at present with a daily average production of around 24,000 barrels. During the past month it has increased its daily yield from below that of the Liberty field, and now stands 10,000 barrels ahead. The Orange field, also far behind Liberty in production a month ago, now leads the Liberty field by several thousand barrels.

South Liberty cannot be classed as a dying field. The steady weakness seen at present in the output of the field has come about primarily as the result of the lack of drilling. True, the latest completions in general have shown a weak tendency, but several wells have been completed there within the last month for more than 2000 barrels initial production. Though the very heart of the proven producing area has been practically drilled out, there are large tracts of land adjoining the known zone, which have not been touched. Outside of these tracts dry hole tests have outlined the territory beyond the point where the producing sands pinch out. The lack of activity that comes from the lack of drilling on the part of companies controlling the acreage between the producing zone and the outline of dry holes.

Acreage Untested

Shutting down of activities by the Humble Oil and Refining Company and the Gulf Production Company has practically cut off operations on the southern end of the field. The Gulf has as yet not tested its 148-acre tract of the David Minchey lease, the 148-acre Condict lease nor the A. Deussen 104-acre lease, all of which lie in consecutive order immediately south of the southernmost producer in the South Liberty extension. South of these three tracts of the Gulf the Humble Oil and Refining Company owns a 90-acre lease, which has yet gone untested. South of Humble's 90-acre lease the Associated Oil Company drilled its Deussen B-1, and abandoned the hole at 4192 feet. Gumbo was found in this test from 3465 feet to 3600 feet, which depth and formation represented the producing horizon of the field, thus indicating that the sand pinched out somewhere to the north of this area. Although the Peer-Monarch companies opened a new possibility of a southern extension to the field early in August when they picked up a good sand at 3199 feet, two tests which followed, resulted in the appearance of salt water from the bottom of the hole. Officials of the companies state that good shows of oil were bailed, and that a small pumper might be made of the well. Plans are being made by the Peer-Monarch to go deeper with the test, abandoning the present sand.

To the west, across the Trinity River, none of the territory has been tested except by shallow cap rock tests. The bulk of this land is controlled by

Lump of oil sand weighing over 400 pounds, with a length of three feet and width of 22 inches. It is claimed to be the largest piece of pure oil sand ever obtained in this country and is on display in the office of Roy B. Jones, Panhandle Refining Company, Dallas, Texas. It sweats oil continually. The display will be sent to Tulsa for the Exposition

the Gulf Production Company, Humble, Associated and the Sun Company. On the northern side of the dome The Texas Company, Humble, Empire and the Sun Company have large holdings which have not been tested except to the shallow formations. The Texas Company's Wesley Monroe Nos. 2 and 3 are the northernmost producers. To the east of the dome an outline of dry holes marks the eastern point of production possibilities.

Unless new territory is opened in the South Liberty field it has little chance of settling down to a better producing field than West Columbia or even the Goose Creek field, according to all indications. The daily output of West Columbia now hinges around 11,200 barrels while Goose Creek is yielding about 9500 barrels daily. Liberty's daily average for last week would have barely topped 12,500 barrels except for the completion of the Deussen No. 11 the previous week for 1500 barrels. This last well has settled at around 500 barrels, and will add little to production to the total of the field in the future.

Wells Show Little Promise

The wells drilling at present at Liberty show little promise. The Texas Company's Fee No. 7 will not drill deeper, and is a prospective small pumper. The Sinclair Oil and Gas Company's Condict Fee No. 5 is scheduled for a salt water well, and the Associated Oil Company's Deussen A-5 is drilling at 3300 feet. The Gulf Production Company's Antoine No. 3 is setting screen at 3400 feet.

Possibilities for further extensive drilling in South Liberty in the near future are slight. The only new location made in the field within the past month is the T. I. Whitney's Wilson-Bullard No. 1, to be drilled in the northwest corner of lot 108. No plans are being made at present by the company to begin drilling operations on this well.

Completions Add Production To Laredo District Fields

Laredo, Texas.—During the last ten days 1850 barrels of oil have been added to the daily production of the Laredo district. O. W. Killam's No. 9 is flowing betwen 400 and 500 barrels at 2056-2071 feet. Six and five-eighths inch casing was set at 2054 feet. No. 10 with casing at 2056 feet, over the sand at 2058-2071 feet, is flowing better than 500 barrels daily. No. 14, casing at 2058 feet, sands 2059-75 feet, is flowing 500 barrels daily by heads. All three tests are located on blocks 12 and 14, survey 256, Henne, Winch and Fariss pool, Jim Hogg County.

The Magnolia Petroleum Company completed No. 6 well located on block 10, survey 256, for a daily production of 150 barrels.

Kitselman St. Albans interests completed No. 19 well located on block 1, survey 580 El Peyote Grant for a daily production of 175 barrels.

At this time there are 62 producing oil wells and six gas wells located in the Henne, Winch and Fariss pool, all of the above wells being drilled since June 23, 1924, when the discoverey gas well was completed. The discovery oil well was completed October 24, 1924. During the period of October 24, 1924, to July 31, 1925, a total of 800,903.81 barrels of oil were recovered from the Henne, Winch and Fariss pool, making an average daily production for the 247 days of 3242 barrels. This pool is by far the most lucrative in the entire district.

Mexican Drilling Continues

Panuco, Veracruz.—Despite heavy rains which is making the transportation of material almost an impossibility because of the condition of the roads, there is but little let up in the drilling activity in the heavy oil district. Cacalilao continues the scene of the greatest activity followed by Chapacao, with the Pan American Eastern, Mexican Seaboard and Transcontinental Petroleum Company (Standard of N. J.) showing the greatest activity. In the six days ending August 29, 17 wells were spuddded in 11 different haciendas with the operators in addition to the above nambed being the East Coast Oil Company (Southern Pacific), Gulf Oil, Sinclair, National Oil, National Railways, New England (Magnolia), Texas Company and Thomas et al.

TEXACO

TEXACO

Petroleum Products

HIGH GRADE UNIFORM QUALITY

Gasoline	Pale Oils	Machine Oils	Waxes
Kerosene	Red Oils	Cylinder Oils	Asphalts
Fuel Oils	Black Oil	Car Oils	Road Oils
Diesel Fuels	Floor Oils	Greases	Asphalt Cement
Bunker Oils	Spindle Oils	Cup Greases	Pipe Coating
Signal Oils	Motor Oils	Gear Lubricants	Roofing
Miners Oil	Engine Oils	Axle Greases	Roofing Cement
Gas Oil	Dynamo Oils	Wire Rope Lubricants	
Distillates			

THE TEXAS COMPANY

New York — 17 Battery Place

Chicago — McCormick Bldg.

Houston — The Texas Co. Bldg.

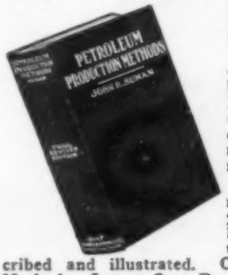
Offices in Principal Cities

Export Dept. 17 Battery Place, New York

Books for Field Men

Petroleum Production Methods

By John R. Suman. Third Edition, completely revised and brought down to date. Off the press October 15, 1923. Eighty pages of new material added. Among many others the following new features are especially worth noting:



Improved Rotary Drilling Methods — Core Drilling, latest "Dope" brought down to date. Mud-Laden Fluid—Newest features fully discussed. Latest Drilling Devices fully described—The "Make and Break" rotary. Collapsible bits and other new bits. Weight indicators.

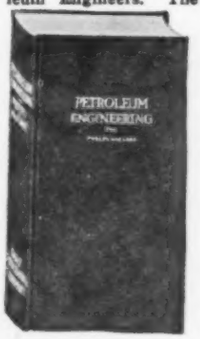
Diamond Drilling for Oil—Exploration and Exploitation. What do you know about this newest device being used by Oil Companies all over the world? This system fully described and illustrated. Cost of Power for Drilling Various Methods. Latest Cost Data on drilling in various fields. Temperature of Drill Holes. Swabbing. Evaporation Losses on stored oil and how to stop them. Heat Treatment for Drill Bits. Latest "A. P. I." Tables for correcting gravity readings according to temperature reading. These tables are absolutely new and have not been published elsewhere to date.

Chapter Headings: Drilling Methods—All systems fully described. Method of shutting off water—full description of cementing methods and use of Packers. Operation of Properties and handling of production. Treating Emulsions—a very important subject thoroughly discussed. The use of electric power; this newest kind of power for oil field use thoroughly described in all of its various phases. Pipe Line—construction and operation, friction losses, etc. Tanks—construction of, preparation of gauging tables and prevention of evaporation losses. Tables and useful information condensed. Information on various subjects, which oil men are constantly needing for reference. 650 pages, fully illustrated. Cloth.

Price, postpaid $6.00

Just Off the Press, Petroleum Engineering

By Robert William Phelps and Francis Wilbur Lake, Petroleum Engineers. The essential portion of the petroleum industry, that of bringing the petroleum to the surface, is accomplished by the men in the field, whose work is greatly facilitated by the application of pertinent technical data. It was for the purpose of offering this data in practical form that this book was written. This book presents in clear terms the relation between the basic theories and laws of geology and those of petroleum geology, and their application in the occurrence and extraction of petroleum from its natural reservoirs, through to the economic phase of the industry; together with many tables and alignment charts which are applicable to petroleum engineering.



561 pages, postpaid.....$5.00

Petroleum Production Engineering

By Lester C. Uren, Associate Professor of Petroleum Engineering, University of California.

Condensed outline of contents: I. Petroleum Exploration and prospecting. II. Acquisition of Title to Oil Lands. III. Maps and Sections; Graphic Logs and Peg Models. IV. Developing the field. V. Churn Drilling Methods. VI. Rotary Drilling Methods. VII. Casing. Casing Appliances and Casing Methods. VIII. Fishing tools and methods. IX. Oil field Hydrology; Exclusion of Water from Oil and Gas wells. X. Control of high-pressure wells. XI. Finishing the well. XII. Production methods; Removal of oil from wells. XIII. Production methods; Management of wells to secure maximum production. XIV. Power for oil field purposes. XV. Gathering, local storage and shipping of petroleum; gauging, sampling and testing. XVI. Preliminary refining of petroleum; dehydrating and separation of sand and gas. XVII. Storage. XVIII. Transportation. XIX. Auxiliary plants and departments. XX. Office methods and records. 653 pages, 6x9, illustrated.

Price, postpaid $6.00

Send Check to

The Gulf Publishing Company

P. O. Box 1307, Houston, Texas

AIRPLANES

Rapid–Reliable–Safe

AGENCIES OF TRANSPORTATION

When Properly Constructed—Maintained Operated

INCREASED EFFICIENCY AND ECONOMY will result from the Rapid Transportation of Executives and other Passengers, Merchandise and Mail by Airplane.

Distinctive Types for Different Services

Problems involving lost time in traveling, shipping or communicating over long distances or between inaccessible points may be solved by the use of the proper type of Airplane.

Our Qualified Experts are Available to Advise You

Periodic Bulletins available for distribution to those interested. Specific inquiries solicited.

ATLANTIC AIRCRAFT CORPORATION

Hasbrouck Heights, N. J.

Manufacturers of Fokker Airplanes The Safest in the World

Fokker Commercial Airplanes now in regular service flew over one million miles in 1924

CRUDE OIL PRICE QUOTATIONS

Current Postings

EASTERN STATES

	Sept. 11 1925	Sept. 12 1924
New York Transit	3.15	2.85
Bradford District	3.15	2.85
National Transit	3.05	...
Southwest	3.05	...
Eureka	3.00	...
Macksburg	2.80	...
Gains	2.70	...
Somerset medium	2.20	1.55
Somerset light	2.35	1.70
Cabell	2.10	1.45
Ragland	1.10	.90
Corning	1.80	1.65

CENTRAL STATES

Illinois	$1.87	$1.62
Indiana	1.88	1.63
Lima	1.98	1.83
Plymouth	1.40	1.00
Princeton	1.87	1.62
Waterloo	1.00	1.10
Wooster	2.00	1.65

WESTERN KENTUCKY

Posted by Indian Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, Cumberland and Monroe Counties

36 and above	2.05	1.50
33 to 35.9	1.95	1.40
32.9 and below	1.85	1.30

CALIFORNIA

(Crude oil prices at well)

Los Angeles and Orange Counties

14 to 19.9 gravity	$1.25	$1.00
20 to 20.9 gravity	1.27	1.01
21 to 21.9 gravity	1.30	1.02
22 to 22.9 gravity	1.33	1.03
23 to 23.9 gravity	1.36	1.05
24 to 24.9 gravity	1.40	1.07
25 to 25.9 gravity	1.44	1.10
26 to 26.9 gravity	1.48	1.13
27 to 27.9 gravity	1.52	1.16
28 to 28.9 gravity	1.56	1.19
29 to 29.9 gravity	1.60	1.22
30 to 30.9 gravity	1.64	1.25
31 to 31.9 gravity	1.68	128
32 to 32.9 gravity	1.72	1.31
33 to 33.9 gravity	1.76	1.34
34 to 34.9 gravity	1.80	1.37
35 gravity and above	1.85	1.40
Fuel Oil	1.30	1.40

Rosecrans Field

36 to 36.9 gravity	$1.92
37 to 37.9 gravity	2.00
38 to 38.9 gravity	2.06
39 to 39.9 gravity	2.16
40 to 40.9 gravity	2.24
41 to 41.9 gravity	2.32
42 and above	2.40

OKLAHOMA—KANSAS—NORTH TEXAS

Prairie, Sinclair, Texas, Gulf

28 to 28.9 gravity	1.15	1.10
29 to 29.9 gravity	1.25	1.10
30 to 30.9 gravity	1.31	1.25
31 to 31.9 gravity	1.39	1.25
32 to 32.9 gravity	1.47	1.25
33 to 33.9 gravity	1.55	1.50
34 to 34.9 gravity	1.63	1.50
35 to 35.9 gravity	1.71	1.50
36 to 36.9 gravity	1.79	1.50
37 to 37.9 gravity	1.87	1.50
38 to 38.9 gravity	1.95	1.50
39 to 39.9 gravity	2.03	1.50
40 to 40.9 gravity	2.11	1.50
41 to 41.9 gravity	2.19	1.50
42 to 42.9 gravity	2.27	1.50
43 to 43.9 gravity	2.35	1.50
44 Baume gravity and above	2.43	1.50

(Magnolia Petroleum Co.)

Under 28 gravity	1.00	.90
28 to 30.9 gravity	1.31	1.00
30.9 to 31.9 gravity	1.39	1.10
32 to 32.9 gravity	1.47	1.10
33 to 33.9 gravity	1.55	1.25
34 to 34.9 gravity	1.63	1.25
35 to 35.9 gravity	1.71	1.25
36 to 36.9 gravity	1.79	1.25
37 to 37.9 gravity	1.87	1.25
38 to 38.9 gravity	1.95	1.25
39 to 39.9 gravity	2.03	1.25
40 to 40.9 gravity	2.11	1.25
41 to 41.9 gravity	2.19	1.25
42 to 42.9 gravity	2.27	1.25
43 to 43.9 gravity	2.35	1.25
44 Baume gravity and above	2.43	1.25

NORTH AND CENTRAL TEXAS

For Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Somerset crude.

	Somerset (Grayburg)	The Texas Co.	Humble O. & R. Co.
28 to 28.9	1.15	1.35	1.35
29 to 29.9	1.25	1.41	1.41
30 to 30.9	1.31	1.47	1.47
31 to 31.9	1.39	1.53	1.53
32 to 32.9	1.47	1.59	1.59
33 to 33.9	1.55	1.65	1.65
34 to 34.9	1.63	1.71	1.71
35 to 35.9	1.71	1.77	1.77
36 to 36.9	1.79	1.83	1.83
37 to 37.9	1.87	1.89	1.89
38 to 38.9	1.95	1.95	1.95
39 to 39.9	2.01	2.01	2.01
40 to 40.9	2.07	2.07	2.07
41 to 41.9	2.13	2.13	2.13
42 to 42.9	2.19	2.19	2.19
43 to 43.9	2.25	2.25	2.25
44 and above	2.31	2.31	2.31

SOUTH TEXAS

Mirando (Texpata)	1.00	.80
Mirando (Magnolia)	1.15	.75

GULF COAST

Grade "A"	1.50	1.35
Grade "B" at Blue Ridge, Hull and Pierce Junction	1.25	1.15

LULING

Based on Contract	1.05	.90

LOUISIANA-ARKANSAS

Caddo

38 gravity and above	1.95	1.35
35 to 37.9 gravity	1.85	1.25
32 to 34.9 gravity	1.75	1.15
Below 32 gravity	1.65	1.00

Homer

35 gravity and above	1.75	1.35
33 to 34.9 gravity	1.65	1.25
31 to 32.9 gravity	1.55	1.15
Below 31 gravity	1.40	1.00

Cotton Valley

	Sept. 11 1925	Sept. 12 1924
All Grades	1.10	.80

Haynesville

33 gravity and above	1.65	1.25
Below 33 gravity	1.55	1.15

Bull Bayou

38 gravity and above	1.75	1.30
35 gravity to 37.9	1.60	1.15
32 to 34.9 gravity	1.45	1.00
De Soto crude	1.80	1.35
Crichton	1.60	1.15
Bellevue	1.65	1.25
Jennings	1.50	1.75
Vinton	1.50	1.75
Edgerly crude	1.50	1.35

Smackover

(Standard, Gulf, Louisiana, Shreveport-El Dorado and Atlanta)

27 and above	1.30	...
26 to 26.9	1.25	...
25 to 25.9	1.20	...
24 to 24.9	1.15	...
Below 24	.85	...

The Texas Company

26 to 26.9	1.25	...
25 to 25.9	1.20	...
24 to 24.9	1.15	...

El Dorado

33 gravity and above	1.65	1.35
Below 33 gravity	1.55	1.25
East Field (Calion)	.85	.60

Stephens District

26 gravity and above	1.40	...
Below 26 gravity	1.20	...

WYOMING-MONTANA

Wyoming

Byron	2.25	...
Ferris	1.30	...
Elk Basin	1.90	1.45
Grass Creek	1.90	1.45
Rock Creek	1.75	1.20
Lost Soldier	1.35	...
Lance Creek	1.90	1.50
Mule Creek	1.75	.60
Notches	.65	...
Big Muddy	1.75	1.00
Osage	2.15	1.40
Hamilton Dome	1.80	1.10
Pilot Butte	1.75	.75
Torchlight-Greybull	2.00	1.40
Lander	.85	.45

Salt Creek

(Midwest Refining Company)

29 to 29.9 gravity	$1.48	$1.10
30 to 30.9 gravity	1.56	1.10
31 to 31.9 gravity	1.64	1.10
32 to 32.9 gravity	1.72	1.10
33 to 33.9 gravity	1.80	1.10
34 to 34.9 gravity	1.88	1.10
35 to 35.9 gravity	1.96	1.10
36 to 36.9 gravity	2.04	1.10
37 to 37.9 gravity	2.12	1.10

Montana

Sunburst	1.55	.90
Cat Creek	2.15	1.45

NEW MEXICO

Artesia	1.45	...
Hogback	2.20	...

CANADIAN CRUDE

Oil Springs	2.45	2.55
Petrolia	2.38	2.48

*Bounty on Canadian crude is ¼ cent per gallon, or 26¼ cents per barrel.

SINCLAIR OILS

THE SINCLAIR dealer is more than merely a customer of the Sinclair Refining Company. With each sale to him there goes the assurance of our help in his own selling problems, whenever he requests it. He is related to us as one Sinclair Department is to another.

The rapid growth of the Sinclair Refining Company is due largely to our close alliance with dealers. We can only grow as Sinclair dealers grow.

SINCLAIR REFINING COMPANY

NEW YORK
Sinclair Oil Bldg., 45 Nassau St.
Telephone: Rector 9320

CHICAGO
22nd and Rockwell Streets
Telephone: Crawford 2000

Cable Address: "Lucent"

AVERAGE DAILY PRODUCTION FOR U.S.

Mountain States

Daily average pipe line runs from all the fields in the Rocky Mountains during the past and previous weeks follow:

WYOMING

	Past Week	Prev. Week
Salt Creek	63,470	63,590
Teapot	1,590	1,650
Lost Soldier	5,470	5,120
Big Muddy	3,430	3,350
Grass Creek	3,740	3,860
Rock Creek	2,960	2,775
Poison Spider	1,000	1,250
Elk Basin	860	915
Greybull	175	180
Mule Creek	690	700
Lance Creek	680	620
Hamilton Dome	625	625
Notches	400	120
Osage	355	345
Lander	325	320
Pilot Butte	300	300
Ferris	115	115
Rex Lake	100	100
Totals	86,285	85,935

COLORADO

Craig	2,395	2,545
Fort Collins	1,325	1,390
Florence	260	260
Tow Creek	115	120
Rangely	100	110
Boulder	25	25
Totals	4,220	4,450

MONTANA

Kevin-Sunburst	11,225	11,500
Cat Creek	3,390	3,500
Totals	14,615	15,000

NEW MEXICO

Artesia	3,000	3,000
Hogback	540	510
Rattlesnake	425	465
Totals	3,965	3,975
Miscellaneous	200	200
Grand totals	109,285	109,560

Kansas

Greenwood County	32,150	32,050
El Dorado	15,340	16,360
Rainbow Bend	9,750	10,680
Elbing-Peabody	5,550	5,540
Blankenship	3,600	3,650
Augusta-Douglas	2,980	3,040
Florence-Covert	1,920	1,900
Other fields	28,160	28,650
Totals	99,390	100,870

California

Field	Past Week	No. Prod. Wells	Prev. Week
Long Beach	109,000	531	109,700
Inglewood	106,800	137	108,500
Santa Fe Springs	54,550	344	52,000
Huntington Beach	47,000	316	48,100
Torrance	38,000	591	37,500
Dominguez	30,500	62	29,500
Rosecrans	24,400	79	25,400
Others	276,000		276,000
Totals	686,250		683,700

Oklahoma

Field—	Past Week	Prev. Week
Burbank	54,560	54,040
Tonkawa	54,450	50,360
Bristow	43,490	43,500
Osage (outside Burbank)	34,650	32,850
Cromwell	28,600	28,050
Okmulgee	25,200	25,150
Garber	24,350	18,300
Cushing	21,120	21,180
Braman	20,260	19,900
Gilcrease-Papoose	12,160	12,280
Hewitt	15,850	15,950
Wewoka	10,650	11,940
Otoe	8,440	6,750
Stroud	4,660	5,000
Salt Fork (Thomas)	3,670	4,025
Other fields	105,060	104,890
Totals	467,170	454,155

Louisiana

Haynesville	12,675	12,690
Cotton Valley	12,085	11,575
Caddo light	7,515	8,785
Vinton	7,400	8,775
Homer	6,365	6,405
Bull Bayou	4,070	4,065
Bellevue	2,825	2,990
Caddo heavy	2,125	2,055
Evangeline	775	810
Edgerly	550	575
Elm Grove	530	450
Lockport (Lake Charles)	1,305	125
Anse La Butte	....	20
Totals	58,220	58,320

Arkansas

Smackover heavy	186,185	190,205
Smackover light	25,810	26,220
Ela Dorado	8,805	8,765
Stephens	1,790	1,785
Irma	1,465	1,460
Totals	224,055	228,435

Texas

NORTH CENTRAL

	Past Week	Prev. Week
Corsicana-Powell	44,570	45,480
Big Lake-Reagan County	38,450	31,855
Archer County	37,280	37,200
Wortham	23,700	24,300
Mexia	18,300	18,700
Electra	17,245	17,365
Burkburnett	14,165	14,195
Stephens County	13,875	14,135
Young County	11,075	11,265
Eastland County	9,850	9,810
South Vernon-Wilbarger Co.	8,620	8,885
K-M-A and Iowa Park	5,610	5,805
Panhandle district	4,265	4,335
Richland	3,725	3,750
Moran-Shackelford County	3,365	3,260
Brown County	3,180	3,105
Callahan County	2,970	2,990
Mitchell County	2,580	2,455
Currie	1,190	1,130
Palo Pinto County	595	620
Montague County	400	440
Petrolia-Clay County	370	385
Coleman County	230	230
Throckmorton County	195	150
Baylor County	260	145
Thrall-Williamson County	50	55
Scurry County	30	50
Jack County	30	35
Totals	266,175	261,455

GULF COAST

Hull	23,350	24,500
Orange	15,000	16,100
South Liberty	14,000	14,500
West Columbia	11,000	11,210
Goose Creek	9,775	9,400
Humble	4,450	4,450
Sour Lake	4,225	4,375
Saratoga	1,575	1,575
Damon Mound	1,150	1,175
Batson	1,430	1,480
Spindletop	1,055	1,060
Blue Ridge	765	655
Big Creek	900	900
High Island	460	475
Pierce Junction	400	465
Markham	75	75
Barbers Hill	125	130
Dayton	60	50
Nacogdoches	35	35
Totals South Texas	89,830	92,610
Totals North C. Texas	266,175	261,456
Luling	22,000	22,890
Lockhart (Lytton Springs)	12,100	11,127
Mirando	6,250	6,200
Somerset	2,425	2,430
Miscellaneous South Texas	510	505
Texas totals	399,290	398,228

Condensed U. S. Production for Twelve Months

(Stated in Barrels)

This table is compiled each week by The OIL WEEKLY, and shows daily production average for each state or section.

Daily average for month	*Mid-Continent	North Central Texas	Texas Coastal	Texas Total	Kansas	Okla.	Louisiana	Eastern States	Wyo. Mont Colo. New Mexico	Calif.	Ark	Texas
June	799,230	260,785	74,335	375,310	74,265	464,175	62,660	105,750	125,735	628,400	157,165	1,993,465
July	815,830	254,665	75,445	378,365	81,545	479,620	63,855	107,175	124,305	620,175	148,655	2,003,695
August	861,640	254,520	75,700	377,045	85,765	521,355	62,595	107,000	123,895	619,200	142,740	2,037,890
September	886,650	253,243	76,953	366,197	86,758	546,647	62,162	107,622	117,345	611,500	131,343	2,029,580
October	855,823	247,222	75,713	359,861	86,884	521,717	62,493	106,600	107,270	605,060	123,235	1,972,902
November	851,733	248,467	71,648	369,621	86,031	517,237	66,117	106,375	91,205	594,000	119,893	1,950,478
December	873,344	267,065	65,437	385,410	88,065	518,213	59,602	106,875	83,472	606,875	111,402	1,959,917
January	906,160	334,305	65,065	448,900	88,390	483,465	56,520	106,200	78,435	602,600	106,280	1,970,350
February	861,130	292,796	63,885	405,195	88,790	479,545	56,825	105,125	87,710	598,375	106,085	1,927,680
March	839,200	301,795	83,800	434,410	84,965	452,440	58,030	100,550	90,900	605,775	112,425	1,939,520
April	836,110	294,040	94,215	435,035	84,360	457,710	57,700	98,250	91,845	602,800	209,840	2,037,545
May	835,350	295,695	100,205	447,080	93,610	446,040	60,945	101,140	91,492	609,200	419,770	2,269,280
June	834,927	286,095	94,514	432,121	98,220	450,637	59,977	103,675	87,477	642,500	349,962	2,249,296
July	807,949	272,119	94,669	414,673	96,967	438,863	60,328	104,360	99,726	671,440	247,574	2,133,932
August	799,855	265,313	88,182	399,851	94,082	440,435	59,940	104,450	106,415	679,650	242,395	2,127,019
Sept. 3	816,481	261,456	92,610	398,228	100,870	454,155	59,320	105,900	109,560	683,700	228,435	2,140,168
Sept. 10	832,735	266,175	89,830	399,290	99,390	467,170	58,220	106,800	109,285	686,250	224,055	2,150,460

*Includes North Central Texas, Kansas, Oklahoma.

NOTE—Wortham, Corsicana-Powell and Mexia production included in North Central Texas.

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

Summarized Review of Field Results

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Product'n This Week	Initial Product'n Last Week
Arkansas	40	55	21	29	1	13	18	13	5,270	13,015
California	41	21	40	17	..	..	1	4	20,305	9,917
Colorado	..	..	..	..	..	..	..	..	....	....
Indiana	1	1	..	..	..	..	1	1	....	....
Illinois	8	1	7	1	..	..	1	..	155	50
Kansas	39	31	25	13	2	1	12	17	4,825	656
Kentucky	35	31	31	19	..	5	4	7	406	186
Louisiana	16	7	8	5	4	1	4	1	318	1,220
Montana	16	12	13	11	1	..	2	1	1,790	1,600
New Mexico	..	..	..	..	..	..	..	..	....	....
New York	4	..	3	..	1	..	..	..	44	....
Ohio	59	63	41	34	11	12	7	17	957	676
Oklahoma	85	90	52	45	5	7	28	38	14,558	14,358
Pennsylvania	5	8	2	..	3	6	..	2	12	....
Tennessee	3	2	..	..	..	..	3	2	....	....
Texas	118	163	61	104	2	3	55	56	11,593	71,743
West Virginia	40	35	14	10	22	17	4	8	193	110
Wyoming	17	18	16	17	1	..	..	1	1,255	1,855
Totals	527	537	334	305	53	64	140	168	61,681	115,086

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling N. S. E. W.—North, South, East, West; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—under reaming; wo—workover; wosr—waiting on standard rig.

Texas

GULF COAST

Company, Well, Location—	Initial Production Bbls.	Depth
Saratoga—		
Rio Bravo Oil Company's No. 1 Fountain	*	3315
E. W. Skinner's No. 1 Parrish (wo)	*	3270
Paggi Brothers' No. 7 Lewis	300	1425
Goose Creek—		
Gulf Coast Oil Corp.'s No. 6 Gaillard (wo)	*	3002
Humble Oil & Ref. Co.'s No 63 Simms-Smith	88	2518
Sour Lake—		
Yount-Lee Oil Co.'s No. 4 Jackson	*	2265
Hull—		
Gulf Prod. Co.'s No. 55 Phoenix Dev. Co.'s	1500	3460
Mecom Oil Co.'s No. 4 Taylor (wo)	750	4028
South Liberty—		
Sinclair Oil & Gas Co.'s No. 4 Condict Fee	250	3325
Gulf Production Co.'s No. 9 Deussen Fee	40	3315
Big Creek—		
Union Sulphur Co.'s No. 32 Davis	*	930
Orange—		
Gulf Prod. Co.'s No. 2 Lee Hager Fee (wo)	2000	4620
No. 10 F. T. Peveto	*	4993
Atlantic Oil Producing Co.'s No 4 Moore (wo)	125	3365
Orange Pet. Co.'s No. 6 Chesson	1500	4633
High Island—		
The Sun Company's No. 5 B. & O.	*	665

NORTH TEXAS

Powell—		
Barclay & Meadows' No. 1 Cerf "C"	*	2803

SOUTH LOUISIANA

Vinton—		
Marrs McLean's No. 4 Gray (wo)	50	1795

ARCHER COUNTY

Barkley-Meadows et al L. F. Wilson 12	80	1525
Brashear-Silkwood et al K. & K. 1.	*	1850
Bridwell et al L. J. Kirkland 1	20	1424
Burns-Maxson et al's L. F. Wilson 8	15	1414
Dollman-Kellogg et al Prideaux 1	20	680
P. F. Gwynn et al Neal 1	*	1203
Humble O. & R. Co. L. F. Wilson 1-D	10	1408
Jensen Oil Co. Jackson 1	*	1710
E. M. Jones et al Darilek 1	100	1429
T. G Lomax et al L. F. Wilson 5	125	1515
Major Pet. Co. Cowan 10	35	1083
Murchison-Fain Oil Co. Richardson 2	*	1300
Muse-Corlett et al L. F. Wilson 2	95	1518
S. McGregor et al Llewellyn 8	65	1454
F. W. Merrick et al J. A. Bell 1	*	1523
Waite Phillips Co. L. F. Wilson 29	*	1520
Ray-Featherstone Oil Corp. A. P. Nichols 12	40	1622
Shappell Oil Co. Jackson 27	50	1808
Smith-Trahan et al Justice 1	*	1105
Sun Oil Co. Farmer Ranch 13	*	1484
Texas Drilling Co. Dale et al 1	*	2025
Tidal Oil Co. Richardson 1	*	1485
Woodburn (Simms) Oil Corp. L. F. Wilson 21-A	*	1610

ELECTRA

Apple-Brandeberry et al Jennings 7-A	25	1470
Arco Oil Co. Burnett 3	*	700
Bullington-Lee et al Jennings 3	*	2010
Magnolia Pet. Co. H&TC 69	80	1686
Burnett Ranch Oil Co. 12	15	1780
J. H. Cottom et al Roller 4	15	743
Dale Oil Corp. Jennings 12	30	1485
Kruger et al Waggoner 3	30	1815
Ryan Pet. Co. G. E. Nance 37	20	1330
G. E. Nance 38	65	1325
G. E. Nance 39	50	1330
The Texas Co. Waggoner 302	*	2337
Texhoma O. & R. Co. Burnett 5-G	5	701
Burnett 2-L	*	1948
Burnett 2-M	*	1988
Texhoma & Cullum et al Burnett 9-A	20	1810

K-M-A AND IOWA PARK

Gulf Prod. Co. S. Mitchell 3-A	10	1305
Mitcham-Logan et al Ellison 1	*	1818
O'Donohoe-Gates et al A. & K. 8-B	60	1648

YOUNG COUNTY

British-American Oil Co. Leberman 1	*	1205
C. H. Clark et al Bishop 2	70	993
Dale et al Keathley 1	*	1053
F-H-E Oil Co. Groves 4	*	1450
Gulf Prod. Co. F. R. Kunkel 1	*	1519
F. G. Swaim 3	*	1060
Junker-Harris et al Doyle 1	*	1205
Lesh-Lehman et al Kemp 9	10	1094
Cliff Mooers et al Ickert 6	20	1209
Murchison-Fain Oil Co. et al Campbell 18-D	55	990
Navarro Oil Co. Parrish 1	*	1250
Plains Prod. Co. Kilcrease 7	600	1014
Ramming-Saunders et al Hunt 1	*	1094
Roamer Oil Co. et al Dunagan 2	180	1016
Roeser-Pendleton et al Cathey 1	75	1194
Simms Oil Co. Carpenter 5-A	30	1036
The Texas Co. Kunkel 1	20	1202

SOUTH VERNON

Atlantic Oil Prod. Co. Zipperle 5	50	2386
F. A. Beatty et al Waggoner 1, sec 15	*	2400
Landreth Prod. Corp. Waggoner 3-B	130	2090
Waggoner 1-A (Sec. 43, Blk. 4)	225	1864
Lippard Oil Co. Fluhman 1	*	2179
McCamey-Sherrin & Lucey W. H. Stephens 7-dd	200	2341
W. H. Stephens 10-dd	60	1845
Murchison-Fain Oil Co. Waggoner 1-C	*	2320

BAYLOR COUNTY

T. D. Humphrey et al Portwood 1	*	1500
Mills Farm Oil Co. W. B. Mills 2	40	1422

CLAY COUNTY

Lone Star Gas Co. E. L. Holloway 14	*	1923
J. T. Cumley et al Green 1	*	1901

COOKE COUNTY

W. J Rawson et al Aldridge 1-A	*	3601

MONTAGUE COUNTY

Texhoma O. & R. Co. et al Lemon 1-A	*	1902

THROCKMORTON COUNTY

Associated Pet. Co. Reynolds 5	*	520
Tucker et al Reynolds 1	*	715

EASTLAND COUNTY

Halmack Oil Co. Gilbert 1	*	1821
Magnolia Pet. Co. Chas. Allman 6	150	1457
Prairie Oil & Gas Co. Harrell 4	25	3598
Reclamation Oil Co. Bond 7	†	1900
States Oil Corp. Hise 5	15	1912

SHACKELFORD COUNTY

Humble O. & R Co. Palm 1	10	428
Jackson et al Kendriick 1	*	750
Loggie et al Blach Bros. 3	*	1060
McCurdy & Graham et al Elliott 1	*	715
Roger-Hogan et al Sexton 1	*	915
Tannehill et al Moberley 4	¶1½	1008

STEPHENS COUNTY

Company, Well, Location—	Initial Production Bbls.	Depth
Lyman et al Langford 1	¶15	1936
Pender Prod. Co. Furr 1	*	3300
Snowden & McSweeney Ackers 6	*	3950
Texas Pacific Coal & Oil Co. T. L. Adams 8	*	3930

BURKBURNETT

Bonchil Oil Co. Bentley 2	15	1175
Reed-Dow et al Roller 1	*	1653
A. D. Robinson et al Roller 12	*	1245
Roller 13	35	1178
S. M. Winters et al Roller 1	*	1005

MIRANDO

Kitselman & St. Albans No. 19	175	....
Magnolia Pet. Co. M. S. Bank 1	100	....
Martinez 6	150	....
O. W. Killam Martinez 9	500	2054
No 10	500	2056
No. 14	500	2058

TEXAS MISCELLANEOUS

Lockhart—		
Gulf Production Co. Cardwell 11	250	1600
17	250	1600
19	250	1600
16	400	1600
Beaty 18	500	1600
20	500	1600
Eagle Drlg. Co. Cardwell 4	800	1600
Mirando—		
Rydal Oil Co. Vela 2	500	....
O. W. Killam's Henne, Winch & Farriss	200	2060
Rydal Oil Co. 13	50	1736
14	15	1738
Crown-Central O. Co. Richmon Garcia	20	1641

NORTH TEXAS

Powell—		
Barclay & Meadows Cerf 1 "B"	200	2973
Cerf 2 "B"	*	2154
Cerf 1 "C"	*	2805
Cranfill & Reynolds Harvard 9	20	1020
Humble Oil & Ref. Co. Davis 20	20	1635
Davis 21	40	1640
G. H. Kent 4	10	1683
The Texas Co. Fleming 14	15	1654
T. & B. V. R.R. Co. 17 R/w	12	1108
18 R/w	12	1053
Richland—		
Gulf Prod. Co. Mary Hillburn 4	104	2985

SOUTH LOUISIANA

Vinton—		
Edgerly Pet. Co. Vincent 7	800	3168

Kansas

Butler County—		
Vickers and Sanford, Barnard 1	*	2740
Cowley County—		
J. A. Hull Rockwell 1	*	....
Rockwell 2	*	3017
Wallace 10	40	2358
Barlow 1	180	3060
Phillips-Marland Nelson 5-E	350	3228
Snyder 4-T	750	3277
Elk County—		
Roth and Co. Porter 11	90	2033
Hanna 3	*	....
Anderson Bros. Smith 3	¶6	1504
Smith 4	¶3	1505
Elk Pet. Co. Kiper 8	7	2451
Southwest G. Co. Leffingwell 2	75	1341
York State Oil Co. Fleek 2	*	1451
Southwest Gas Co Webb 8	60	1332
Greenwood County—		
Phillips Pet. Co. Warrensberg 3	200	2196
Sinclair Oil & Gas Co. Browing	250	2356
Abel and Rhodes Branaird 1	*	2440
York State Oil Co. De Malorie 1	145	1988
Greenland Oil Co. Taylor 1	715	2543
White Eagle et al Mosby 1	*	2728
Green and Oil Co. Green 10	60	2374
Sheedy et al Green 5	100	2346
Empire Gas & Fuel Co. Teter 27	493	2531
Mid-Kansas Allen 24	125	2112
Ark. Fuel Co. Marshall 12	75	2315
Murphy et al Wiggins 1	15	1587
Connell & Gorden Elmer 1	*	3305
Marion County—		
National Ref. Co. Warner 1	200	2439
Rooks County—		
Consolidated O. & R. Co. Byrnes 1	*	....
Russell County—		
Midwest Ref. Co. Booth 1	25	2925
Derby et al Sutton 6	300	2759
Sutton 7	200	2761
Midwest Ref. Co. Oswald 31	100	2919
Streeter & Stearn Oswald 5	250	2920
Sumner County—		
Foster et al French 1	*	....
Wilcox Oil & Gas Co. Stayton 1	*	4110
Floyd & Howarth Myers 1	*	....
Woodson County—		
Empire Gas & Fuel Co. Bahr 1	20	1795

Oklahoma

Kay County—		
Comar Oil Co. Priboth 5	28	2091
Wentz Oil Corp. Andrew 1	527	2408
Mahoney 3	2809	4217
Mahoney 4	1490	4265
Comar Oil Co Beverlin 10-W	720	4284
Noble County—		
Mid-Co. Pet. Co. O'Neil 10-A	*	1300
Osage County—		
Okla. Nat. Gas Co. No. 239	*	1940
Owen Osage No. 337	¶1½	1361
Mid-Kansas No. 1	*	2134
Devonian Oil Co. No. 10	10	1702
Carter Oil Co. No. 6	500	2932
Lewis Oil Co. No. 9	700	2975
Carter No. 4	350	2947
Phillips Pet. Co. No. 16	550	2971
Merrill et al No. 4	*	1303
Lincoln County—		
Santrock Drilling Co. Powell 1	*	920
Twin State Oil Co. Bigwater 3	627	3364
Magnolia A. Sukovaty 5	610	3377
F Sukovaty 3	350	3424
Dowell et al Townsite 2	*	2750
Tulsa County—		
Minshall et al Fife 1	*	2342
Superior Oil Co. John 6	25	2302
Riverland Oil Co. Inchoe 5	1000	2283
Okmulgee County— ¶		
Independent, Haskins 12	300	2553
Phillips Pet. Co. Rowe 3	300	2085
Olean Pet. Co. Hogan 7	200	2616
Cosden Moore 2	*	2646
Moore 4	*	2614
Moore 5	¶5	2106
Waite Phillips Cover 2	15	2767
J. A. Swindler Lewis 2	165	2462
Iron Mountain Johnson 14	*	2783
Thornsberry 9	70	1961
Kewanee, Wright 9	*	2465
Ozark Drilling Co. Barnett 2	¶5	1547
Wagner County—		
J. S. Cullivan Mason 3	25	1757
Kenmaker McIntosch 4	*	700
Flint Ridge Murrell 1	*	1300
Okfuskee County—		
Independent Oil & Gas Co. Jacobs 3	40	3716
Amerada A. Fiffs 1	*	4354
Seminole County—		
Carter & Pulaski Baker 5	1316	3424
Laurel Oil & Gas Co. Sarkey 2	15	3450
Gypsy-Laurel, Williams 2	*	3463
Magnolia, Williams 4	15	3421
Wisner 4	50	3449
P. & R. Corp. Bowlegs 1-B	*	4138
Carter 1	*	4110
Champlin & Bass Davis 2	450	3226
Hughes County—		
Gypsy Oil Co. Carolina 1	15	3007
T. B. Slick Grayson 5	10	3312
Phillips Pet. Co Arber 5	300	3306
Tidal Osage Lucey 3	15	3107
Mid-Kansas Hudson 1	38	2910
J. W. McCullough C. Jefferson 1	¶70	3239
Independent, N. Proctor 1	*	4426
Garwin County—		
T. P. C. & O. Co. H. Dreyden 3	*	1805
Carter Oil Co. H. Dreyden 4	25	1736
Kiowa County—		
Alcorn Oil Co. School 1	*	3222
Grady County—		
Magnolia Pet. Co. Hill 2	*	3535
Carter, Scott 1	¶14	2500
Garfield County—		
Sinclair Oil & Gas Co. Denker 6	*	2740
Walker 5	*	1810
Chas. E. Knox Minnie Crooks 3	7	1715
Sinclair, Hartley 3	*	2320
Pawnee County—		
Gypsy Oil Co. Embry 1	75	3146
Adamson Oil Co. Aten 1-A	*	2683
McMahon, Hennessy 3	115	2809
Schenfeldt et al No. 1	20	2385
Pawnee County—		
Josey Oil Co. Laughlin 8	¶13	1229
Creek County—		
J. B Grieves Lowe 1	15	2418
Danciger Oil Co. Crosby 1	*	3648
H. U. Bartlett et al King 3	14	2953
Hartman & Williams Hays 1	*	2780
Ireland, Freeman 3	125	2538
Emery & Sons Jacobs 6	45	2984
Tibbens Oil & Gas Co. Unallotted 14	25	3679
Stephens County—		
Clark & Cowden Waters 1	*	1500
Ka Wye Pet. Co. Brown 2	*	2278
Eagle Creek Brown 1	45	2294
Magnolia Morgan 7	*	2365
Lorraine Pet. Co. Skelton 5	75	2214
Carter Oil Co. Forgay 2	70	2257
Carter County—		
Cameron Ref. Co. Walker-Voorhes 4	50	2510
Franklin-Carter Brooks 3-A	180	2822
Merrick-Cameron Moyer 5	85	3090

Arkansas

Smackover Dist., Ouachita County—		
Gulf Ref. Co. J. Goodwin A-9, 5-16-15	200	....
J. Goodwin A-10, 5-16-15	120	2370
Scott 2, 34-15-15	¶20-100	2645
Humble O. & R. Co.'s H. Laney 3, 31-15-15	*	2592
Woods 1, 34-15-15	*	2575
Imperial Oil & Gas Co.'s McClanahan 8, 6-16-15	*	2377
McClanahan 10, 6-16-15	225	2381
Phillips Pet. Co.'s Joyce 11, 33-15-15	300	2398
J. D. Reynolds et al's Keller 1, 25-15-17	*	2120
Roxana Pet. Corp.'s Laney A-1, 31-15-15	120	2571
Shreveport Oil Corp.'s Neeley 3, 26-15-16	55	2074
Standard Oil Co.'s R. Bennett B-5, 32-15-15	*	2309
R. Bennett B-6, 32-15-15	1500	2420
Umstead B-7, 32-15-15	400	2422
Texas Pacific Coal & Oil Co.'s Laney 8, 31-15-15	500	2580
The Texas Co.'s E. Johnson 10, 3-16-15	380	2386
Smackover Dist. Union County—		
Baggett et al's Houston 1, 12-16-16	*	2675
Barnesdale & Foster's Murphy 2, 17-16-15	*	2050
Murphy 3, 17-16-15	*	2360
Coates & Sowell's Bilyieu 3, 8-16-15	225	2421
J. E. Crosby's Lawton A-5, 10-16-15	150	2442
Federal Pet. Co.'s Lawton A-10, 10-16-15	¶40	2710
Gulf Ref. Co.'s Alphin 10, 10-16-15	*	2539
LeCroy 7, 6-16-15	100	2506
T. C. Murphy 20, 9-16-15	¶40-50	2645
Werner 31, 5-16-16	*	3387
Werner 40, 6-16-16	75	2268
Hickman et al's Graves 9, 3-16-15	*	2340
Humble O. & R. Co.'s Flenniken A-6, 3-16-15	200	2377
Natural Gas & Pet. Corp.'s Bilyieu 2, 9-16-15	*	2340
Ramey et al's Rice 2, 7-16-16	50	2300
J. Richardson's Bradford 3, 8-16-15	200	2387
Rowe-Daniels Synd.'s Tatum 1, 7-16-15	*	1725
Tatum 2, 7-16-15	*	2190
Simms Oil Co.'s Cook 8, 16-16-15	300	2623
The Texas Co.'s Langley 3, 7-16-15	20	2331
Total, 36 wells	¶100-5270	

Louisiana

Bellevue Field—		
G. W Wetherbee's Fee 10, 23-19-11	*	465
Caddo Parish—		
Austin Oil Co.'s Peak 20, 23-22-15	15	1019
Dixie Oil Co.'s Hoss 1, 24-22-15	50	1079
Ohio Oil Co.'s E. K. Smith 17, 12-21-15	¶60	3532
R. O. Roy et al's Hutchinson 2, 34-16-12	¶8	1920
Total, 4 wells	¶68-65	
Waskom Dist., Caddo Parish—		
Shreveport P. & R. Co.'s Bryson 1, 17-17-16	¶5	1888

Company, Well and Location	Initial Production Bbls.	Depth
Sabine Parish—		
L. M. Emlet's Bowman-Hicks Lbr. 5, 9-7-12	3	2668
Elm Grove Dist., Bossier Parish—		
J. S. McCullough Trust's Hodges 1, 25-16-12	60	1556
Wilder & Cushman's Leviston 1, 13-16-12	5	1559
Total, 2 wells	65	
Monroe Gas Field, Morehouse Parish—		
Natural Gas & Prod. Co.'s Tensas Delta 6, 9-21-4e	¶13	2142
Cotton Valley Dist., Webster Parish—		
Ohio Oil Co.'s Gray 15, 26-21-10	100	2568
Standard Oil Co.'s Jackson 1, 27-21-10	35	2563
Total, 2 wells	135	

California

Baldwin Hills-Inglewood—		
Standard Oil Co. Vickers 1	1320	2650
Petroleum Securities Co. Rubel 15	1799	2500
Rubel 6	1730	2500
Pacific Oil Co. Baldwin 12	900	2565
Brownmoor Oil Co. No. 3 (wo)	100	1877
Torrance Field—		
C. C. M. O. Torrance Community 75	45	3697
Del Amo 16	118	3544
Marine Corp.'s No. 52	45	3820
Superior Oil Co. Jougin 63	60	3797
Long Beach Field—		
Bassett-Maeier-Rorig L. B. 1	85	4430
Lindon Oil Co.'s No. 1	450	4225
Fred Walker's No 1	50	3160
Huntington Beach Field—		
Associated Oil Co. Wardlow 2	100	3390
Petroleum Co. Wilson 2 (wo)	40	3740
Wilson 1 (wo)	60	3711
Republic Production Co. Kirk 1 (wo)	40	3500
Standard Oil Co. Huntington Beach B-28	175	4655
Athens-Rosecrans—		
Marine Corp. Athens 38	120	5017
Golden State Ref. Co. Athens 1	600	4753
Fullerton Oil Co. Athens 1	800	4330
Union Oil Co. Jameson 1	73	4934
E. A. Packford's No. 1	136	4980
Leland Mitchell's No. 1	88	4189
E. J. Wiley's Marland 3	225	4895
Marland 2 (wo)	185	5000
Dominion Oil Co.'s No. 3	400	4777
Walter H. Fisher's No. 14	400	4475
Julian Pet. Corp Athens 5	100	4401
Associated Oil Co. Wanka 1 (wo)	108	4905
Higgins 3 (wo)	771	4624
Dominguez Field—		
Union Oil Co. Callendar 12	330	4719
Callendar 11	944	4427
Hellman 12	525	4224
Signal Hill Field—		
Weaver Bros. No. 1	450	4444
A. T. Jergins Trustees Long Beach 15	90	4118
Brea-Richfield Field—		
General Pet. Corp. Thomson 6	996	4633
Brea-Canyon Oil Co.'s No. 37	912	4882
La Mirada Wildcat—		
Petroleum Products Synd.'s No. 1	*	5500
Elk Hills Field—		
Union Oil Co. Elk Hills 11	315	3455
Sunset District—		
General Pet. Corp.'s No. 379	120	2100
Ventura County Field—		
Shell Co. Gosnell 14	4500	4760

Mountain States

WYOMING

Salt Creek Field—		
Wyoming Associated Oil Co. No. 1-A, SW¼ 30-40-78	75	2135
No. 24-A, SE¼ 22-40-79	100	1610
No. 13-A, NE¼ 22-40-79	100	1777
No. 12-A, NW¼ 13-40-79	110	....
No. 16-A, NW¼ 30-40-79	60	2047
No. 19, SW¼ 25-40-70	50	1120
Midwest Oil Co. No. 2, NE¼ 35-40-79	80	1110
No. 15, NE¼, 35-40-79	90	1146
No 36-A, NW¼ 24-40-79	100	1580
Midwest Oil-Wyoming Associated No. 27-A, NW¼ 36-40-79	50	1687
No. 18, NE¼ 36-40-79	80	1705
Salt Creek Consolidated Oil Co. No. 26-A, NE¼ 3-39-79	60	1935
No. 24-AS, SE¼ 3-39-79	50	2044
Continental Oil Co. No. 7-A, 19-40-78	100	2515
No. 24-A, SW¼ 33-40-78	100	2360
Lance Creek—		
Ohio Oil Co. No. 1-L, 5-35-65	¶	3241
Big Muddy—		
Texas Production Co. No. 32	50	3150

MONTANA

Kevin-Sunburst—		
Ohio Oil Co. No. 1-K, 15-35-2	30	1533
No. 3-R, 33-36-2	*	1820
No. 7-N, 33-35-2	100	1473
Fulton Oil Co No. 4-B, NE¼ 31-35-1	800	1450
No. 3-B, NW¼ 31-35-1	100	1240
O'Neill-Homestake Oil Co. No. 1-A, 26-35-2	*	1478
Western States Oil & Land Co. No. 1-C, 7-34-2	¶	1507
Aronow Oil Co. No. 1-B, 22-35-2	20	1560
Homestake Oil Co. No. 7-P, 22-35-2	75	1594
Hibbing Oil Co. No. 6-P, 32-35-1	30	1503
Kewanee Oil Co. No. 3-P, 32-35-1	40	1479
Essix Oil Co. No. 1-S, 30-35-1	500	1276
Maharg-Davis Co. No. 1, 27-35-3	20	1674
Tristate Oil Co. No. 4, 30-35-1	25	1495
Bitter Creek Oil Co. No. 5-M, 29-35-1	20	1560
Queen City Oil Co. No. 17-M, 5-34-2	30	1495

Eastern States

PENNSYLVANIA

Greene County—		
Peoples Natural Gas Co. W. A. and M. Rinehart 1	¶2	....
Warren Pyles 1	¶2½	....
Stockdale & Co. Morford Hrs. 2	10	....
Carnegie Natural Gas Co. C. K. Spraggs 1	¶2½	....
J. H. McDermott McClelland-Wright 1	2	....

NEW YORK

Bolivar Field—		
Karl, Weller & Co. Art Jordan 1	32	....
R. J. Dermitt Dermitt 1	10	....
Frank Putnam & Co. Moses Lot 1.	2	....
McKean Natural Gas Co. Miller 2	¶½	....

WEST VIRGINIA

Ritchie County—		
Griffin Producing Co. Kennedy Oil 37	8	....
Hudson Oil Co. United Stewart Oil 38	2	....
T. A & E. P. Mellon Ada Conaway 3	¶¼	....
Mellon Oil Co. W. E. Conaway 3	¶1¼	....
Carnegie Nat. Gas Co. Carrie E. Richards 1	¶1	....
Big Four Oil Co. Bowe Hrs. 1	¶1½	....
Bradin & Britton Marguret Conrad 1	¶¼	....
Ferrell Farm Oil Co. A. L. Parson 1	*	....
Pleasants County—		
Dresser Oil Co. R. J. & R. M. Corbett 9	3	....
Faith Oil Co. Hammett Hrs. 3	10	....
Wiser Oil Co. R H. Wilson 1	¶2	....
Creek Oil Co. S. McLaughlin 21	*	....
Roane County—		
Carter Oil Co. Meadow Hrs. 1	¶2¼	....
A. J. Meadows 1	¶2½	....
United Fuel Gas Co. H. H. Tawney 1	¶2	....
F. F. McIntosh Charles Hauger 2	¶2	....
Lincoln County—		
Tampico Oil & Gas Co. Pike Hrs. 6	¶1¼	....
Carter Oil Co. Louisa Abbott 1	¶1	....
Baker Bros. Hal Baker Hrs. 3	¶1¼	....
L. R. Sweetland Sweetland 6	¶1½	....
Foote Oil & Gas Co. Rachael Barnett 1	¶1½	....
Doddridge County—		
Raccoon Oil & Gas Co James Kelley 1	2	....
Murphy Oil Co. A. K. Rollins 3	30	....
Carter Oil Co. W. H. Huffard 3	8	....
Boone County—		
The Pure Oil Co. Williams Coal Co. 211	25	....
Lafayette & Co. 25	30	....
Calhoun County—		
Hope Construction & Ref. Co. John Bell 1	2	....
A. R. Bourn 2	30	....
Mingo County—		
Public Gas Corp. Neighbert Hrs. 5.	13	....
Jack Dalton & Co. Ira Barbone 1.	*	....
Kanawha County—		
Columbia Carbon Co. C. W. Vickers 7	¶2½	....
C. W. Vickers 10	¶2½	....
Wood County—		
South Penn Oil Co. L. M Newbanks 9	5	....
Putnam County—		
W. H. Kirtley & Co. R. H. Davis 2	5	....
Lewis County—		
Roy Horner Menter Lawson 2	¶2½	....
Gilmer County—		
Pittsburgh & West Va. Gas Co. Peter Messenger 1	¶2¼	....
Marshall County—		
Manufacturers Light & Heat Co. Lucinda Burge 2	¶4	....
Tyler County—		
American Oil Dev. Co. J. C. Allen 4	¶1	....
Cabell County—		
Grant Shipe & Co. R. J. Armstrong 1	¶1	....
Preston County—		
Hope Nat. Gas Co. Joseph Gordon 1	*	4900

KENTUCKY

Barren County—		
Wood Oil Co. J. M. Church 9	15	550
Houchins Leasehold Co. G. Mayfield 8	15	580
Porter & Co. McGlochlin 9	10	290
Fred Moore & Co. Travis 10	10	489
Esslinger Oil Co. Jones 6	7	444
Gillespie & Wiggins Scott 11	8	490
Larue Oil Co. Regal 3	5	....
Kopel Oil Co. Carboner 1	*	393
Owensboro District—		
Wood Oil Co. W. E. Tyler 1	2	....
Panther Creek Oil Co. J. W. Smith 8	12	....
Leeper Oil Co. S. Collier 2	25	....
J. S. Collier 2	15	....
Michlin & White O. T. Burdette 4.	11	....
Central Southern Oil Co. J. R. Ellis 1	4	....
Warren County—		
Penhoma Oil Co. Hobson 15	35	947
Twin River Oil Co. Detheridge 2	25	1050
Moken Oil Co. J. M. Morgan 3	40	1298
Wood Oil Co. C. G. Davenport 21.	5	450
Wood Oil Co. Grimes 12	10	1117
Lawrence-Johnson Counties—		
Townsend & Garrison J. N. Sparks 4	4	770
J. N. Sparks 5	5	768
Indian-Tex Petroleum Co. J. C. Gilliam 12	10	818
Allen County—		
Bastrus & Parson Wheat 9	20	285
W. L. Baird Joseph Allen No. 2, tract 10	5	361
C. B. Brown O. G. Thacher 8	*	515
White Plains Oil & Gas Co. G. Taber 15	*	387
Johnson-Magoffin Counties—		
Oliver Jenkins Martha Conley 13	6	....
R. G. Gillespie Samuel Blanton 16	8	....
Structure Oil Co. William Prater 10	5	....
Hopkins County—		
Copper Flash Oil Co. Holleman 9	7	518
West Kentucky Coal Co. Near Earlington 1	35	2214
Lee-Owsley Counties—		
Superior Oil Corp. J. D. Smythe 4	25	....
D. J. Johnson New Era Land Co. 3	*	....
Wayne County—		
Superior Oil Corp. Dabney 2	10	....
Dillon, Marsh & Co. J. A. Brown 5	12	....

TENNESSEE

Company, Well, Location—	Initial Production Bbls.	Depth
Clay County—		
Young Oil Co. Marcum 1	*	....
White Plains Oil & Gas Co. Brown 1	*	550
E. C. Edenfield Spivey 1	*	480

SOUTHEASTERN OHIO

Company, Well, Location—	Initial Production Bbls.	Depth
Morgan County—		
Nuggett Oil Co. Pearl Donelson 1	2	....
Pearl Donelson 2	2	....
Pearl Donelson 3	2	....
W. R. Metcalf & Co. Louie Worthington 4	3	....
J. B. Keller & Co. John Donoho 16	2	....
Burns & Dunn Lovell 18	2	....
A. T. Smith Jennie Kimble 1	2	....
Noble County—		
J. H. Yearin & Co. R. E. Merry 6	*	....
Way Wickens & Co. Henry Estard 1	*	....
Joseph Estadt & Co. D. W. Williams 4	5	....
Muskingum County—		
The Pure Oil Co. Edward Ashcraft 1	15	....
Washington County—		
Forest Oil & Gas Co. Samuel Edwards 5	5	....
Guernsey County—		
Ohio Fuel Gas Co. W. H. Hutchinson 1	¶1	....

CENTRAL OHIO

Company, Well, Location—	Initial Production Bbls.	Depth
Licking County—		
Edward H. Everett Co. Felix Montgomery 4	160	....
Carter Oil Co. G. W. Gutridge 1	15	....
I. J. Denbow & Co. Garey Weiss 5	5	....
Alvin C. Spindler & Co. James McGonigle 4	3	....
F. M. Rugg & Co. Jacob Weiss 8	4	....
Jacob Weiss 9	3	....
Detex Oil Co. Otto Franks 3	3	....
E. J. Edmonds & Co. Alexander Forey 1	6	....
Heisey Gas Co. O. Bowers 1	¶1	....
Adams & Moore T. L. Stevens 15	¶1¼	....
Athens County—		
Frebault & Gross Dan Higgins 1	10	....
Snodgrass & Co. F E. Clark 1	5	....
The Pure Oil Co. Louisa Gadnal 3	¶2	....
Bickle & Co. G. C. Lawson 1	¶1½	....
Stewart Oil & Gas Co. W. Louther 1	*	....
Logan Gas Co. J. W. Kincaide 3	¶2	....
Hocking County—		
Preston Oil Co. W. H. and G. Rauber 2	100	....
Murray City Oil & Gas Co. Mackey Heirs 6	95	....
J. J. Walters & Co. Ohio Fuel Oil 2	25	....
Sunday Creek Coal Co. Fee 128	5	....
Webb Oil & Gas Co. Webb heirs 1	*	....
Holmes County—		
East Ohio Gas Co S. H. Sterling 2	250	....
The Pure Oil Co. S. S. Troyer 1	10	....
Coshhocton County—		
Carter Oil Co. Clyde Blair 1	15	....
Empire Gas & Fuel Co. Daniel Gribble 1	*	....
Wayne County—		
Ohio Oil Co. Jess Hess 2	45	....
Perry County—		
Carter Oil Co. T. J. Van Sickle 1	2	....
Knox County—		
W. T. Carson W. T. Carson 2	2	....
Ashland County—		
Logan Gas Co. J. W. Sellers 1	¶1¼	....
Lorain County—		
Logan Gas Co. G. D. and I. E. Alexander 1	¶1	....
Medina County—		
Arthur & Mills Athea Stewart 1	¶⅛	....
Cuyahoga County—		
Hulse & Kundtz C. E. Hall 3	¶4½	....
Richland County—		
Mansfield Capital, Emil Schausse 1	¶½	....
Jackson County—		
Ohio Fuel Supply Co., E. Cherrington 1	¶1	....
Fairfield County—		
Ohio Fuel Gas Co. George W. Groff 1	*	....

NORTHWESTERN OHIO

Company, Well, Location—	Initial Production Bbls.	Depth
Allen County—		
Charles Geselchen & Co. M. L. Young heirs 5	15	1371
Mrs. J. J. Graves Graves 2	*	1250
J. Oscar Hoover & Co. Evers-Steman 9	16	1350
Shelby County—		
Fort Laramie Oil & Gas Co. Frank Danzig 3	40	1290
Wittmer Property, Trustee, John Zimmerman 2	20	1300
Van Wert County—		
Hugh Dogle W. H. Lloyd 2	*	1241
A C. Grace C. W. Crone 2	6	....
Hancock County—		
Base Line Oil Co. E. L. Latschaw 6	20	1302
Auglaize County—		
Boston-Southwestern Oil & Gas Co. Fred Preiser 8	15	1338
Wood County—		
W. F. Johnson Francis Weiland 2	9	1235
Sandusky County—		
M. G. Norton & Co. Amelia Upp 14	8	1306

INDIANA

Company, Well, Location—	Initial Production Bbls.	Depth
Gibson County—		
Foster Oil Co. U. G. Butcher 1	*	1400

ILLINOIS

Company, Well, Location—	Initial Production Bbls.	Depth
Clark County—		
Ohio Oil Co. S. H. Brossman 17	58	1415
Vanorden & Co. Frank Morgan 4	40	1411
Ellis, Myers & Co. A. W. Baker 2	40	1587
Coats, Shrider & Co. A S. Brand 1	2	400
Wabash County—		
Joe Young & Co. D. H. Price 1	5	1487
Adams Corner Oil Co. J. F. Smith 1	*	1600
Lawrence County—		
Ohio Oil Co. E. Coombs No. 2, tract, 12	5	1622
Marion County—		
Timberlake, Leighty & Co. William Langewich 2	5	1626

WILDCATS FROM ALL SECTIONS

Louisiana Wildcats

COMPLETIONS

Company, Well, Location—	Initial Production Bbls.	Depth
Bossier Parsh—		
G. W. Wetherbee's Beirle 1, 24-19-11	*	574
Woodley & Collin's Chamlee 1, 20-23-12	*	2804
Lincoln Parish—		
Buckner et al's Barrett 1, 13-20-3w	*	2640

DRILLING REPORT

BIENVILLE PARISH—J. E. Smitherman's Hunt-Hodges 1, 8-15-5, dr 2230 ft.

BOSSIER PARISH—Clark et al's Wutzke 1, 2-18-12, sd 200 ft. Corbett et al's Murff 1, 18-17-11, rig. Kendrick et al's Webster 1, 9-18-11, sd 1020 ft. Wetherbee et al's Beirle 2, 4-19-11, dr 475 ft.

CADDO PARISH—Dixie Oil Co.'s Dillion 53, 13-21-15, milling 3689 ft; Jolley 1, 27-22-15, ru cable tools, 347 ft. Flournoy et al's Simpson 1, 8-16-15, dr 2790 ft. Fortuna Oil Co.'s Levee Board 2, 8-20-15, dr 3335 ft. Mitchell 1, 17-18-15, sd 3839 ft. Haynes Bros.' L. S. & P. 1, 8-19-16, dr 3550 ft. Henderson et al's Caldwell 1, 29-22-15, sd 1520 ft. The Texas Co.'s Huron Lands 5, 17-15-12, dr 2575 ft.

CLAIBORNE PARISH—Ohio Oil Co.'s Patton 1, 23-21-5, dr 150 ft. Triangle Drlg Co.'s Keen 1, 7-19-5, sd 2090 ft; extending water line.

DE SOTO PARISH—Dixie Oil Co.'s Jenkins 1, 9-12-11, dk. Fortuna Oil Co.'s Alexander 1, 32-12-15, dr 3545 ft. Gulf Ref. Co.'s Williams C-18, 31-13-11, dr 4035 ft

GRANT PARISH — Dowling & McCurry's Holmes 1, 20-19-1e, set 10-inch 80 ft.

JACKSON PARISH—Big Chief Oil Co.'s Rymes 1, 13-14-4w, sd 3200 ft.

LA SALLE PARISH — Beckman et al's Urania 1, 25-10-1e, dk. Davis et al's Russell 1, 24-10-1e, rig. Dixie Oil Co.'s L. & A. Oil 1, 29-9-2, lcn. Finn & Ball's King 1, 23-10-1e, sd 40 ft. Gould & Monroe Drlg. Co.'s Harper 1, 23-10-1e, to plug back 1496 ft. Helm & Burch's Urania 1, 10-10-2e, sd 1604 ft. Imperial O. & G. Co.'s Urania 1, 10-10-2e, dr 2235 ft. Love et al's Tremont 2, 30-10-23, sd 1534 ft. Urania Pet Co.'s Urania 8, 19-10-2e, set 6-inch 1503 ft. P. J. White's Louisiana Central 1, 27-10-2e, sd 40 ft. Wright et al's Love 1, 16-11-2e, sd 1460 ft. Zeigen et al's Urania Lumber 2, 19-10-2e, wosr 1572 ft; Urania Lumber 3, 19-10-2e, testing 1557 ft.

MOREHOUSE PARISH — Boisseau et al's Sullivan 1, 11-21-7e, dr 885 ft.

OUACHITA PARISH—Culver et al's Cordell 1, 23-15-3e, rig. Dickson & Frue's Goodwin 1, 24-18-2e, sd 3036 ft. Palmer Corp.'s (White) Jones 1, 6-16-5e, sd 2556 ft.

RAPIDES PARISH—Mack & Hincy's Barron 1, 29-5-2, sd 90 ft. Wilbanks & Weaver's Lanier Land 1, 3-4-3e, sd 1300 ft.

SABINE PARISH—Emlet et al's Bowman-Hick's 6, 8-7-12, sd 543 ft. Toro Pet. Co.'s Wyatt 1, 18-4-11, set 8-inch 1500 ft.

UNION PARISH—Gulf Ref. Co.'s Frost 1, 33-23-1w, dk. Jones & Walker Oil Co.'s Feazel 1, 6-19-2e, sd 2558 ft. Rhodes et al's Jones 1, 6-23-2w, dr 1425 ft. Ruston Drlg. Synd.'s Ford 1, 8-20-4, dr 550 ft.

WEBSTER PARISH — Fortuna Oil Co.'s Bible 1, 8-20-9, sdtr 2946 ft. Palmer Corp.'s Davis 1, Cotton Valley deep test, 23-21-10, dr 4005 ft.

WINN PARISH—Hall et al's Eagle 1, 6-10-2w, dr 600 ft. Ohio Oil Co.'s Rowland 1, 5-12-1w, fsh 2750 ft.

Arkansas Wildcats

COMPLETIONS

Company, Well, Location—	Initial Production Bbls.	Depth
La Fayette County—		
Humble Oil & Ref. Co.'s Ford 1, 28-16-24	*	1513
Miller County—		
Humble Oil & Ref. Co.'s Fouke Estate 1, 2-17-27	*	800
Ouachita County—		
Humble Oil & Ref. Co.'s Smithe Brothers 1, 7-14-19	*	1352
Gillespie et al's Fee 1, 2-15-26	*	2506

DRILLING REPORT

ASHLEY COUNTY—Brown et al's Fee 1, 33-16-7, dk. Pine Ferry Oil Co.'s Pine Ferry 2, 1-17-6, dk. Rhodes et al's Bledsoe 1, 20-15-7, sd 110 ft.

BRADLEY COUNTY—Ruth Easley's Brown 1, 21-16-12, rig. Gulf Ref. Co.'s Benson 1, 25-15-9, dr 1130 ft. The Texas Co.'s Saline Lumber 1, 11-17-10, dr 3040 ft.

CALHOUN COUNTY — Brown-Hunt-Murdock et al's Freeman-Smith 1, 25-15-18, sd 2606 ft. Gerald et al's Freeman-Smith 1, 35-15-13, dr 300 ft. Gulf Ref. Co.'s Freeman-Smith 1, 31-15-13, rig. Magnolia Pet. Co.'s Calion Lbr. 1, 29-15-14, rig. Murdock et al's Eagle Mills 1, 29-12-15, r 2310 ft

CLARK COUNTY—Heath Trust's Arnold 1, 12-9-20, rig.

CLEVELAND COUNTY — Dedman et al's Moore 1, 28-9-10, sd 1756 ft, to set casing.

COLUMBIA COUNTY — Greeson et al's Pearce 1, 3-18-20, sd 2100 ft. Gulf Ref. Co.'s Hines 1, 17-17-18, dr 3370 ft. Hude & Aarnes'

Brown 2, Stephens deep test, 13-15-20, to deepen 2169 ft. Pluto Oil Co.'s Dickens 1, 20-18-22, sd 1000 ft; Robinson 2, 23-18-23, dk. Ky-Ark Pet. Co.'s Sorrels-Thomas 1, 7-19-19, dr 1200 ft.

DALLAS COUNTY—McNeil et al's Owens 1, 29-10-16, dk.

DREW COUNTY—Graves et al's Karnes 1, 35-13-5, sd 3033 ft. McClintock et al's Ogle 1, 35-13-5, dr 1700 ft.

HEMPSTEAD COUNTY — Tarver et al's Swafford 1, 14-11-25, set 8-inch 2080 ft.

LA FAYETTE COUNTY— Arkansas Fuel Oil Co.'s Allen 1, 18-19-24, dr 2075 ft. Humble O. & R. Co.'s Bodcau Fee 1, 17-16-23, dr 1180 ft; Bodcau-Reed 1, 16-15-22, dr 1880 ft; Bodcau-Waldrip 1, 15-15-22, dr 325 ft. Ken-Saw Pet. Co.'s Red River Valley 2, 3-20-24, dr 2815 ft.

LITTLE RIVER COUNTY — Grote et al's Allen 1, 2-13-29, set 6-inch 2928 ft.

MILLER COUNTY—Copeland et al's Wiseman 1, 36-15-27, dr 2255 ft. Davidson et al's Faulk 1, 29-17-27, dr 2008 ft. Humble O. & R. Co.'s Fouke 2, 2-16-17, dr 900 ft; Dorsey 1, 2-17-26, dr 1000 ft.

NEVADA COUNTY — Dudney-Thompson Synd.'s Mays 1, 23-14-22, sd 1088 ft. Humble O. & R. Co.'s Smith 1, 7-14-19, rig Magnolia Pet. Co.'s Johnson 1, 3-15-21, dr 1900 ft. Steele et al's Fincher 1, 9-15-22, sd 1600 ft.

OUACHITA COUNTY — Buffalo Oil Co.'s Davis 1, 22-15-19, set 6-inch 2116 ft; Morgan 2, 22-15-19, sd 2121 ft. Gilliland Oil Co.'s Myar B-5, 30-15-16, set 4½-inch cas 2600 ft. Humble O. & R. Co.'s Warren 1, 35-13-19, rig. Van Diver et al's Yarbrough 1, 22-14-17, sd 900 ft.

UNION COUNTY — Magnolia Pet. Co.'s Chandler 1, 4-19-14, dr 3340 ft. Warbler et al's Morrison 1, 12-18-14, sw 2627 ft. Ward et al's Goodwin 1, 16-16-14, dr 2660 ft.

Central West Texas Wildcats

COMPLETIONS

Company, Well, Location—	Initial Production Bbls.	Depth
Brown County—		
Moore et al Baxter 4	30	1298
Moore-Wilson et al Gafford 6	40	1253
Schaffner & Wilson et al Prater 1	150	1275
Simms Oil Co. Gaines 1	*	1489
Callahan County—		
Moore et al blk 7, Townsite 1	*	1446
Wakefield et al blk 31, Townsite 1	100	1429
Weiler et al blk 89, Townsite 1	90	1430
Mitchell County—		
Magnolia Pet. Co. Womack 1	15	2630
Reagan County—		
Big Lake Oil Co. University 34	765	2938
B. H. Cogdell et al University 1 sec 23, blk 8	*	3200
Texon Oil & Land Co. University 12	1250	2972
University 19	720	2906
University 20	1965	2917

DRILLING REPORT

BROWN COUNTY — Adams-Moody's Newton 1, dr 2010 ft. Anderson-McCamey's Williams 1, dr 865 ft. Cal-Bro Oil Synd.'s Prater 2, dr 1010 ft. Curry & Conway Bros.' Chambers 2, machine. Cowboy Evans et al's McDonough 1, dr 920 ft. Gillman-McMurray's Henry 1, sd 1000 ft; Teston 7, mudding gas 1115 ft; Moore 6, dr 890 ft. Gilman et al's Newton 11, rig. Gray et al's Lewis 1, lcn. J. K. Hughes et al's Moore 2, dr 420 ft. Halmack Oil Co.'s Hubbard 1, dr 1015 ft. Howell & Houseman's Helms 1, dr 1520 ft. Infield Pet. Co.'s Graham 1, dr 425 ft. Keough et al's Angel 1, rig. McCamey et al's Clark 1, rig. Mahlstedt-Mook Oil Co.'s Madison 1, dr 600 ft. Mendenhall et al's Newton 10, dr 350 ft. Moore et al's Kilgore 1-A, dr 230 ft. Mook-Wakefield's Newton 3, testing sand 1336-58 ft; Wright 1, dr 1350 ft. McLester Oil Clark 1, ur 930 ft. Moore-Wilson's Gafford 7, dr 1240 ft; Gafford 8, rig. Olympia O. & R. Co.'s Gilliam 3, dr 2295 ft. Phillips & Milam's Graham 1, dr 715 ft. Slick et al's Windham 1, dr 2010 ft. Stone & Co.'s Gunn 3, rig. Williamson et al's Keller 1, materials; Newton 1, rig.

CALLAHAN COUNTY—Brannon & Murray's blk 85, Townsite 1, dr 310 ft. Bowden-Dehurst's Coats 1, dr 630 ft. Canyon O. & G. Co.'s Barr 2-A, dr 900 ft. Cranfill-Reynolds' blk 9, Twnsite 1, spudding; blk 57, Townsite 1, dr 1445 ft; blk 74, Townsite 1, machine. French & Lewis' Hinds 1, dr 220 ft. Harris-White's blk 25, Townsite 1, set cas 1405 ft. Lowe-Delaney & Carter's blk 76, Townsite 1, dr 515 ft. Mitchell-Shadboldt's Childress 1, lcn. Mogul Oil Corp.'s McDermott 1, sd 600 ft. Moore et al's White 1, dr 315 ft. Red Moore et al's blk 75, Townsite 1, machine. Neeb & Stone's blk 10, Townsite 1, dr 300 ft. Petroleum Exploration Co.'s Smart 1, lcn. Quaker Oil Co.'s Gilliland 1, rig. Slick et al's Haley 1, dr 1370 ft. Skinner et al's blk 73, Townsite 1, spudding. Stone et al's blk 69, Townsite 1, machine. Sudderth et al's Thorn 1, dr 115 ft. Urban et al's Finley 1, dd, co 2365 ft. Wakefield et al's Derrington 1, spudding. Warren et al's blk 6, Townsite 1, sd 760 ft. Weiler et al's blk 83, Townsite 1, rig.

COLEMAN COUNTY — Canyon O. & G. Co.'s Harris 1, fsh 1640 ft. Morrison & St. John's Young 1, rig. The Texas Co.'s Hall 1, spudding.

PALO PINTO COUNTY — Adams et al's Pollard 2, co 1700 ft. Crawford et al's L. Smith 1, sd 3240 ft. Jack Dalton Oil Co.'s Dalton 6, dr by tools 4010 ft. Moore & Sneboldt's Slemmons 1, dr 2315 ft. Pender Prod. Co.'s Slemmons 2, sd 3665 ft; Slemmons 3, sd 3410 ft. Texas Pacific Coal & Oil Co.'s Stuart 148, plug back from 1770 to 1645 ft. Upham Gas Co.'s Belding 4, dr 1935 ft; Chesnut 2, dr 3445 ft.

PARKER COUNTY—English et al's Peters 1, sr cas 950 ft. Monroe et al's Davis 1, dr 570 ft. Swensondale Oil Co.'s Evans 1, fsh 3905 ft.

BREWSTER COUNTY—Green Valley Oil Corp.'s J. C. Wilson 1, sd 2140 ft. Western Pet. Co.'s J. P. Wilson 1, sd 2060 ft.

CRANE COUNTY—Cordona Oil & Potash Co.'s Jax Cowden 1, sd 2430 ft. Penn-Tex Dev. Co.'s Jax Cowden 1, dk. Texas Dev. Co.'s Jax Cowden 1, sd 2680 ft.

CROCKETT COUNTY — Crockett Drilling Synd.'s Robt. Massey 1, dr 3505 ft; J. M. Shannon 2, sd 260 ft; Shannon 3, lcn. J. C. Cook (Wilcox) et al's University 1, dr 1975 ft. Ely et al's Noelke 1, lcn. Cumberland O. & G. Co.'s Couch 1, spd and sd. Gulf Prod. Co.'s State-Powell 1, ur cas 890 ft. Humble & Marland's L. P. Powell 2, dr 975 ft. Humble's Harris Bros. 1, spd and sd. Jacobs et al's University 1, spd and sd Marland Oil Co. et al's W. C. Corbett 1, lcn; J. S. Todd 1, lcn; University 1, sec 26, blk 31, lcn; University 1, sec 5, blk 30, lcn. Wm. Shaffer et al's University 1, dr 350 ft.

CULBERSON COUNTY — The California Co.'s M. A. Grisham et al 1, fsh bit 934 ft. Pure Oil Co.'s Mrs. G. H. Guard 1, spudded. Grisham et al's Grisham 1, dr 2530 ft.

JEFF DAVIS COUNTY—Herbert Oil Co.'s Denton 1, lcn in NW¼ of E½ sec 20, blk G-25.

EL PASO COUNTY—Burns & King's Fee 4, sd 4905 ft.

GARZA COUNTY—Gulf Prod. Co.'s J. B. Slaughter 1, dr brown lime with hfw 3425 ft. Marland Oil Co. et al's Connell 1, dr 965 ft.

GLASSCOCK COUNTY—Gulf Prod. Co.'s L. S. McDowell 2-C, dr gray lime 1760 ft. Marland Oil Co. et al's J. Currie 1, lcn; G. Mook 1, material.

HOWARD COUNTY—Deep Rock Oil Co.'s W. T. Scott-Hyman 1, dr 735 ft. Maryand Oil Co. et al's M. H O'Daniel 1, dr 1635 ft.

IRION COUNTY—Chas. Denny et al's D. E. Hughes 1, sd 1470 ft. Virginia-Texas Pet. Co.'s Case 1, dr 860 ft.

LOVING COUNTY—P. V. Petroleum Co.'s J. J. Wheat 1, sec 82, blk 1, W. & N. W. Ry sur, flowed one head 25 bbls 39 gravity oil 4212-63 ft, now agitating. Rio Grande Oil Co.'s Sid Kyle 1, rig. Ramsey Oil Co.'s Russell 1, showed oil 4325-75 ft, sd td 4591 ft.

MARTIN COUNTY—Humble O. & R. Co.'s C. C. Slaughter 1, sec 8, blk 35, sd hfw 4335 ft.

MIDLAND COUNTY — Rook-Zimmerman's M. E. Hill 1, sec 8, blk 37, TP Ry sur, dr 3025 ft.

MITCHELL COUNTY — California Co.'s Morrison 14, dr 2050 ft. Barnum & Henshaw's Scott 1, dr 1675 ft. Eastland Oil Co.'s Paul Elder 1, dr 300 ft; Keynard 4, dr 1790 ft. Atlantic Oil Prod. Co.'s R. P. Ricker 1, rig in E½ of ST¼ sec 11, blk 28, T-1-N. W. B. Green et al's Ellwood 1, materials. M. Snyder et al's A. R. Keith 1, dr 2830 ft. Magnolia Pet. Co.'s Lucy Coleman 1, lcn in SE corner sec 4, blk 26, H&TC sur; W. W. Watson 1, materials; C. M. Adams 2, lcn.

PECOS COUNTY—Adams Oil Co.'s Devin 1, sd 1004 ft; Devlin 2, dr 310 ft. Dixie Oil Co's Sherbino 1, sd 600 ft. West Texas Exploration Co.'s Macey 1, spd and sd.

REAGAN COUNTY — Big Lake Oil Co.'s University 17, dd, using reamer 2794 ft; University 30, dr 2450 ft; University 31, dr 2795 ft; University 32, mudding cas 2825 ft; University 36, fsh 2535 ft; University 37, dr 1865 ft; University 41, ur cas 2425 ft; University 43, dr 1900 ft; University 44, dr 650 ft; University 45, dr 1045 ft; University 46, dr 2740 ft; University 47 to 50, rigs. H. D. Camp et al's University 1, sd 200 ft. W. H. Dunning et al's J. D. Sugg 1, sec 185, TP Ry sur, blk 2, dr 3205 ft. Ben Simon et al's University 1, blk 11, dr 1935 ft. Marland Oil Co. et al's M. J. Wilson 1, Sec 1199, CSD & RGNG Ry sur, dr 790 ft. Texon Oil & Land Co.'s University 17, flowing 30 bbls per hour, dr 2937 ft; University 22, dr 2530 ft; University 23, dr 1610 ft; University 24, dr 1725 ft; University 25 and 26, rigs; University 27, dr 2530 ft; University 28, dr 1350 ft; University 29, dr 2500 ft; University 4, Group 2, NW cor sec 26, blk 9, sd 2840 ft. University Oil Co.'s University 1, sd indefinitely 3070 ft

SCURRY COUNTY — The California Co.'s C. E. Wood 1, sr cas 2613 ft. Northwest Co.'s Newman 1, putting on pump 1880 ft. Morrison-Thompson's M. E. Towle 1, rig.

STONEWALL COUNTY — Arkansas Fuel Oil Co.'s Craft 1, spudding. Elder Nance et al's Ward 1, sd 2130 ft; J. M. Thomas 1, sd 1485 ft.

STERLING COUNTY—Chicago-Texas O. & G. Co.'s Foster 1, sd 1975 ft; D. C. Durham 1, sd 2250 ft; Durham 2, sd 1580 ft. Buell et al's Douthitt 1, sd 2280 ft. Harty et al's Reynolds 1, co 270 ft C. J. Wrightsman et al's Claude Collins 1, lcn. Wrightsman Pet. Co.'s W. L. Foster 1, dr 1175 ft; G. R. Hull 1, dr 2835 ft. White Eagle O. & R. Co.'s H. M. Mills 1, skidding rig.

SUTTON COUNTY—J. W. Sorrelle et al's Clarkson et al 1, lcn.

UPTON COUNTY—George McCamey et al's Mrs M. L. Baker 1, dr 1665 ft. Willis Campbell et al's University 1, sd 1770 ft. W. P. Morris et al's H. M. Halff 1, sd 655 ft.

Texas Panhandle Wildcats

CARSON COUNTY — American Ref. Co.'s Burnett 1-C, set cas 2875 ft; Burnett 1-D, dr 1985 ft; Burnett 1-E, co 3128 ft. Crosbie Oil Co.'s Burnett 3, dk. Culbertson Bros. et al's Burnett 1, dr 1160 ft. Gates Oil Co.'s Burnett 2, rig. Gulf Prod. Co.'s Burnett 9, dr 2983 ft. Magnolia Pet. Co.'s Burnett 1-A, cemented 6⅝ cas 2982 ft. Marland Oil Co. et al's Burnett 3, cemented 6⅝ cas on oil pay 2970-75 ft; Burnett 4, dr 2550 ft. Olson et al's Burnett 1, sd 3060 ft. Premier Oil Corp.'s Burnett 1, sd making gas 2860 ft. W. W. Silk et al's Burnett 4, re-bldg rig 2755 ft; Burnett 5, lcn. The Texas Co.'s Burnett 6, trying to shut off heavy gas with 8¼ cas 2860 ft. Henry Zweifel et al's Burnett 1, lcn.

COLLINGSWORTH COUNTY—Continental Oil Co.'s Hughes 1, dr 1630 ft.

COTTLE COUNTY—T. J. Woodley et al's A. C. Dulaney 1, sd 3005 ft; Dulaney 2, dr with diamond core 810 ft.

DALLAM COUNTY—H. A. Martin et al's James 1, trying to pull cas 1640 ft

GAINES COUNTY—Frank Phelps & Mun-

day's M. C. Lindsey 1, sd for 10 inch cas 1105 ft.

GRAY COUNTY—A. R. Anderson-Bock et al's Beaver-Bradford 1, dr 3030 ft. Danciger Oil & Ref. Co.'s J. B. Bowers 1-A, dr granite 2975 ft. W. H. Holmes' J. B. Morse 2, sd 3147 ft. Osborne & Daniel's Allie Byrum 1, spudding. Wilcox O. & G. Co.'s Coombs-Worley 1, dr out cement 2910 ft.

KING COUNTY—The California Co.'s R. B. Masterson 1, lcn. Hoffer Oil Corp.'s Patten 1, dr 1320 ft.

HUTCHINSON COUNTY — American Ref. Co.'s Weatherly 1, dr 1995 ft. J. E. Crosbie et al's H. W. Pitts 1, rig. W. T. Coble et al's Whittenburg 1, sd 2880 ft. Currie Bros. & J R. Phillips' H. E. Smith 1, rig. Dixon Creek Oil Co.'s Smith 2, sd making 30 million ft gas 2650-2725 ft. F. D. Gibson Oil Corp.'s Whittenburg 1, rig. McIlroy Bros. et al's Smith 1, dr 680 ft. J. H. Middleton et al's Weatherly 2, lcn. Panhandle Ref. Co. et al's Dial-Perkins 2, dr 2665 ft; Dial-Perkins 3, dr 2225 ft. J. R. Phillips et al's Weatherly 1, rig; W. L. Kingsland 1, flowed 30 bbls oil 2799-2800 ft, sd storage; Kingsland 2, dr 575 ft. Tex-O Oil Co.'s Johnson Bros. 1, dr 2150 ft. Travelers Oil Co.'s W. L. Kingsland 1, rig. Roxana Pet. Corp.'s H. E. Smith 1, dr 2150 ft. Twin Six Oil Co.'s Kingsland 2, dr 2155 ft. Western Enterprise O. & G. Co.'s Smith 2, spd.

POTTER COUNTY—Amarillo Oil Co.'s L. Bivins 4-A, ur 2070 ft. Prairie O. & G. Co.'s Lee Bivins 1, rig.

ROBERTS COUNTY—Phil Engle et al's Mrs. Lederick 1, running gas 3710 ft.

WHEELER COUNTY—Angus et al's Ember 1, sd making gas 2150 ft. Globe Oil Co.'s Williams-Laycock 1, sd contract depth 2235 ft. Mid-Way Oil Co.'s Williams-Laycock 1, showing gas 1885 ft, dr 1890 ft. Mid-West Exploration Co.'s W. C. Company 1, dr 475 ft.; Williams-Laycock 1-A, spd. J. J. Rook et al's H. C. Phillips 1, making 2,000,000 ft. gas and 30 bbls. oil 2290-93 ft, sd storage. W. D. Sheddon et al's B. F. Westmoreland 1, sd for cas 2400 ft. Vaughan & Pendleton's O'Gorman Bros. 1, dd, cemented 8¼ cas 900 ft, td 1650 ft.

San Antonio District Wildcats

BEXAR COUNTY—Humble Oil & Refining Co. No. 1 Menchaca, dr; No. 2 reported abn.

BASTROP COUNTY—Quaker Oil Co. No. 1 Glover, dr; Foster & Reter, dr.

KONSET

REG. U.S. PAT. OFFICE
PATENT APPLIED FOR

When cementing use KONSET and eliminate the IF'S

The elimination of that IF and its consequences so far as human activity and ingenuity are concerned, also that you may be able to have a permanent bonded waterproof job, requires the addition of KONSET.

Without the use of KONSET the chances are against you.

TEXAS DISTRIBUTOR

Joe McConnell Co.

OIL FIELD SPECIALTIES
507 State National Bank Bldg.,
HOUSTON, TEXAS

Made by
THE SULLIVAN COMPANY
Memphis, Tenn.

DUVAL COUNTY—Co-Operative Drilling Co. No. 2 Dinn, no lcn. Associated Oil Co. No. 1 Sutherland, dr 1560 ft in sandy shale. Booth Interest's No. 1 W. R. Peters preparing dr 900 ft. Stebbins Oil & Gas Co. No., preparing to spd in. Scrivener's No. 1 Vetter, dr. Southern Extension Synd. No. 1 William, dr. M. O. Rayor's No. 1 Jessie Lipscomb, dr. Allen Durman's No 1 Bailey, dr. McClannahan's No. 1 Herman Lenz, dr. Joseph Duining et al No. 1 Hugo Vetter, dr. J. M. Davis Hoese No. 1, resumed dr. Atlantic Oil Co. No. 1 Blumberg, reported abn. Big Gusher Oil Co. Walker, good oil showings at 600 ft

GUADALUPE COUNTY—Magnolia Pet Co. No. 1 R. M. Day, spd in; J. O. Day No. 1, cas. San-Tex Oil Co. No. 1, dr. Texo Oil Co. No. 4 Lopez, dr. Weber Oil Co. No. 4 Holbein, dr. Plateau-Wheat No. 4, dk; No 5, lcn. O. W. Killam No. 12, fsh 2490 ft; No. 13, swabbing 300 bbls at 2056 ft; No. 9 Martinez, prod 500 bbls at 2054 ft; No. 10, prod 500 bbls at 2056 ft; No. 14, prod 500 bbls at 2058 ft. Plateau-Texas-Pacific No. 2, dr; 6, set cas. Elliott-Texas-Pacific No. 2, dr.

JIM HOGG COUNTY—Rydal-Rycade Oil Co. No. 1 W. P. Allen, dr. Simms Oil Co. No. 1 Weed, dr J W. Pippen et al No. 2, dr; No. 3 Palacious, spd in. Daniels & English No. 1, dr. Kitselman & St Albans Interests No. 19, prod 175 bbls; No. 20, shut down. Grayburg Oil Co. No. 1 Weil, reported abn. Wolcott-Hoffman No. 1 Davis Vela, dr; No. 1 Givens, preparing to spd in. Andrews Pet. Co. No 1 M S. Bank, rigging up. Magnolia Pet. Co. No. 1 M. S. Bank, prod 100 bbls; No. 6 Martinez, prod 150 bbls. Mirando Oil Co. No. 11, set to spd in. O. W. Killam's No. 3 Benavides, dr; No. 4, dr. Humble Oil Co. No. 1 Pusch, set cas; No. 4 Walsh, dr. United States Gas & Oil Co. No. 3 Peters, dr.

ZAPATA COUNTY—H. J. McMullens Nos. 1, 2, 3, lcn. Texas Co. No. 1, dr; No. 1 Jennings, dr 3310 ft in sandy shale. R. K. Bateman et al No. 1, dr.

Coastal Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Fort Bend County—		
Gulf Prod. Co.'s Davis 4	*	1600
Jefferson County—		
Houston Oil Co.'s Sun Davis 3....	*	1900
Hardin County—		
Vacuum Oil Co.'s R. Teel 1	*	3222
Louisiana Gulf Coast—		
Vacuum Oil Co.'s Miller 3 2500		4402

DRILLING REPORT

ATASCOSA COUNTY—Rio Bravo Oil Co.'s Cortinas 3, on the Cortinas 80-acre tract near Anchorage, H&TC sur, show of oil at 3300 ft, setting cas.

BRAZORIA COUNTY—E. F. Hamm et al's Bryan 2, near Arcola, 440 ft to W and 450 ft to S line, lcn.

CHAMBERS COUNTY — W. C. Moore et al's Blanke 1, on Blanke tract, NE quarter H&TC sec 39, 1200 ft W of E line and 500 ft S of N line, sd temp. sd at 625 ft. C. T. Rucker's Fisher 1, preparing to resume drilling at 2265 ft.

FORT BEND COUNTY—Gulf Prod. Co.'s Moore 5, John Moore lease, dr at 1450 ft in gumbo and boulders; Davis 4, at Long Point, J. H. P. Davis lease, sec 101, H&TC Ry sur, 100 ft to S and W lines, abn in cap rock at 1600 ft. Davis 5, near Long Point, 101 H&TC Ry sur, 900 ft to W and 100 ft to S line, bldg. dk. Rich Development & Petroleum Co.'s Moore-Hager 2, at Big Creek, 300 ft NE of No. 1, SE side of dome, sd. Rycade Oil Corp.'s Wisdom 2, Nash dome, dr at 2842 ft in hard sand and lime; Nash 5, 1300 ft E and 150 ft S of NW cor of Nash 200-acre tract, blk 2, 1100 ft E of Nash 4, dr at 1138 ft. in shale; Wisdom 3, dr at 595 ft in shale. The Texas Co.'s G. W. Armstrong 1, James Scott sur, 50 ft to N and S line SW of Needville, dr at 4070 in hard sand; Robinson 13, at Blue Ridge, dr at 3989 ft in gumbo and lime.

GALVESTON COUNTY — Gulf Prod. Co.'s George E. Smith 3, at High Island, 300 ft from No. 2, dr at 2960 ft in sand and shale; George E Smith 4, on M. Dunman sur, 300 ft W of No. 2, abn at 3222 ft in cap rock.

HARDIN COUNTY—Vacuum Oil Co.'s R. Teel 1, near Saratoga, 350 ft N and 200 ft W of the most easternly SE cor of Teel lease, dr at 3222 ft.

HARRIS COUNTY—The Texas Co.'s Warren 4, near Hockley, dr at 3156 ft in sandy shale and lime; Warren 5, T. A. Sulley sur, 700 ft N of No. 3, dr at 1808 ft hard sand and lime. Rycade Oil Corp.'s Norsworthy 1, 200 ft E of W line and 200 ft N of S line of Norsworthy 62-acre tract, dr at 4010 ft in shale and boulders. Retrieve Oil Co.'s Sid Westheimer 1, 300 ft from N and W lines on Wiley Smith sur, 7 miles NE of Houston, preparing to test sand at 2618 ft. Rio Bravo Oil Co.'s Settegast 1, at Pierce Junction, 700 ft W and 200 ft S of NE cor of Settegast 100-acre lease, show of oil at 3847, setting casing. C. D. Baldwin et al's J. E. Haney 1, 3 miles E of Elena, GC&SF Ry sur, 800 ft to N and 450 ft to W line, dr around 1100 ft

JACKSON COUNTY—Vanderbilt Pet. Co.'s Seliner 1, 4 miles N of Vanderbilt, C. W. Hall subdivision of Harwood Burns ranch, sd at 3283 ft. Houston Oil Co.'s Rodgers 1, near Edna, 150 ft from S and E lines of lease, blk 14 in Narcisco Rodriquez league, dr at 2401 ft in gumbo.

JEFFERSON COUNTY—Houston Oil Co.'s Fanny Crow 1, 1300 ft N and 180 ft E of SW cor of T&NO Ry sur, No. 172, dr at 2875 ft in rock; Sun Davis 3, at Big Hill, No. 172 T&NO Ry sur, 450 ft E of No. 1, abn around 1900 ft. Gulf Prod. Co.'s Thomas 4, at Fannette, near Hampshire on the E. Thomas 445-acre tract, dr at 400 ft.

LIBERTY COUNTY — Liberty Prod. Co.'s C. F. Seaberg 1, 3300 ft S and 400 ft W of SW cor and SE cor H&TC Ry sur No. 8, no report

MATAGORDA COUNTY — Rycade Oil Corp.'s Gray 2, at Markham, 1050 ft S of NE cor and 500 ft W of E line, blk 2, W. H. Gray land, dr at 4167 ft in hard sand and water. Sheppard Mound Oil Co.'s Hawkins 2, near Hawkinsville, fsh at 2000 ft. Gulf Prod. Co.'s Craig 2, near edge of Hawkinsville dome, offset to Craig No. 1, dr at 2510 ft in gumbo.

ORANGE COUNTY — Sinclair Oil & Gas Turner 1, 1211 ft S of NE cor J. W. Turner 30-acre tract, dr at 3390 ft. Rycade Oil Corp.'s Cow Bayou B-2, washing over at 3700 ft; Cow Bayou C-2, repairing drum at 4591 ft in shale and sand.

REFUGIO COUNTY—Houston Oil Co.'s W. J. J. Heard 1, Refugio Townsite, 200 ft to N and W lines in NW cor of lot 114, dr at 1800 ft. Rooke A-1, 500 ft from N and E lines of NE cor of 600-acre tract of Thomas Mullen sur, setting casing at 500 ft; Rooke 2, 30-acre tract S of Mission River, Thomas Mullen sur, dr at 700 ft; Clint Heard 1, 150 ft from N and E cor, west 100-acre of Clinton Heard land, Refugio town tract, spudding in.

WALKER COUNTY—C. N. Haskell's Phail 1, 9 miles N of Huntsville, temp. sd at around 650 ft.

LOUISIANA GULF COAST — Rycade Oil Corp.'s Hooks 1, at Lake Arthur, no report. Marland Oil Co. of Texas' Phoenix Development Co. 1, at Lockport, 650 ft E and 150 ft S of NW cor of SW sec 16, dr at 3798 ft in rock. Ohio Oil Co.'s Martin 1, in Martin's Parish, Hager dome district, NE quarter of sec 32, 1000 ft S and 10 ft W of NE cor, no report. Vacuum Oil Co.'s Phoenix B-1, 1286 ft E, 400 ft S of NW cor sec 16, preparing to take core at 5570 ft; Phoenix C-1, 450 ft S and 825 ft E of NW cor of SW quarter of NW quarter, temp. sd at 3532 ft; Farquar 2, 150 ft S and 100 ft E of NW cor of SW quarter of SW quarter of sec 9, dr at 4333 ft in sandy shale; Freiberg & Wolf 1, 780 ft S and 685 ft E of NE cor of SW quarter of sec 9, wosr at 2458 ft; Miller 3, 694 ft W and 300 ft N of SE cor of NW quarter of sec 9, completed for 2500 bbls pipe line oil at 4402 ft; Miller 4, 870 ft E and 150 ft S of NW cor of SE quarter of sec 9, dr at 3331 ft in gumbo; Lockmore 3, 1225 ft E and 300 ft N of the NW quarter of sec 10, dr at 2786 ft in sand rock; Frien Lake State No. 1, Calcasieu Parish, 1190 ft S and 200 ft E of NW cor sec 15, dr 99 ft for water well.

Oklahoma

ATOKA COUNTY—Hansen et al Dabney 1, C SE NW 17-4-11w, sd 3562 ft. Wapanucka Dev. Co. Underwood 1, C W L SE SE 28-15-10, sd 1343 ft.

BLAINE COUNTY—Okoma Oil Co. Edelman 1, SWc 21-15-10, sd 2610 ft.

BRYAN COUNTY—Alexander Hampton 1, SEc NE 26-7-11, sd 1400 ft.

CANADIAN COUNTY—Thomas Revelle Dawson 1, C SE SE NW 20-26-9w, sd 3065 ft. Carrol et al Setter 1, SEc 2-13-8w, sd 100 ft. C. D. Jones et al Sanders 1, C NE NE NE 29-11-7w, sd 2150 ft.

CLEVELAND COUNTY—Carr Oil Co. Holland 1, NEc SE 31-10-4, sd 2620 ft.

HUGHES COUNTY—Mathers & Skelley McClain 1, C SW 4-5-11, sd 3026 ft. Walton, Snyder & Marshall Kite 1, C E L NE NW 8-6-10, fsh 3701 ft. Atkins et al Sewell 1, C SE SW SW 14-7-9, co 3510 ft. Permenter et al Stewart 1, C SW SE 11-5-8, rig. Henry Greis & Kerrs Pearson 1, C SE NE NE 30-5-10, dr 1450 ft.

JEFFERSON COUNTY—Barkers et al Major 1, C SE SW 14-5-6w, sd. Godley Oil Co. Woodworth 1, C NE NW 36-5-4w, dr 2045 ft. Pure Oil Co Howard 1, SWc NE 25-4-11w, co 1508 ft.

KIOWA COUNTY—Alcorn Oil Co. No. 1, NEc SE SE SW 13-7-16w, abn 3222 ft. C. E. Reynolds Stuart 1, C E ½ SE 12-6-17w.

LINCOLN COUNTY—P. & R. Corp. Hanzig 1, NWc SW 14-13-8, dr 3440 ft. Douglas Oil Co. Ewing 1, NEc 7-13-3, td 3210 ft. F. O. Howarth Harris 1, SEc NE 22-15-2, td 4905 ft. Santrock Drilling Co. No. 1, SEc NW 17-15-3, hole plugged 920 ft. Ruby et al Cull 1, NEc NW 36-15-4, sd 4610 ft M. W. Schower, Kentzelton 1-A, NWc 7-14-4, spd.

LOGAN COUNTY—Franklin Oil Assn Moore 1, NWc SE SE 35-18-4w, sd 2520 ft. Haley & Pioneers Quair 1, SWc SE 33-19-3w, sd 270 ft. Blackford O. & G. Co. Lair 1, C S L N½ SE 28-16-1w, sd 1450 ft.

LOVE COUNTY—Drillers Syndicate Oil Co. Wilson 1, NWc SE 11-7-2, sd 2830 ft. Magnolia Pet. Co. Crowe 1, C NE NE SE 13-8-2, dr 3030 ft. Smyer & Stein Gray 1, C SE SE 12-9-1, rig.

MAJOR COUNTY—Tex. Prod. Oil Co. Basin 1, SWc 6-22-14w, sd 200 ft. Franz & Slick Gray 1, C NW 36-21-11w, sd 1000 ft.

PONTOTOC COUNTY—Highland Oil Co. Hatcher 1, C NW SW 4-4-5, sd 2315 ft. Bronson & Doyle Starrett 1, SWc NE 5-4-5, sd 300 ft.

POTTAWATOMIE COUNTY—Davie Detrick McGathey 1, SEc 10-6-2, sd 3850 ft. H. G. Gwuinup Floyd 1, SW SE 12-11-13, sd 3655 ft. Pierce Oil Co. Madgett 1, NWc 25-10-4, sd 460 ft. McMann Oil Co. Heghean 1, SWc NW 19-7-4, ur 750 ft. Halmond Osmand et al Fiddler 1, SEc NW 4-5-5, sd 545 ft. Central National Oil Co. Toney 1, C SW SW SW 28-10-4, sd 755 ft. Magnolia Pet. Corp. Rowe 1, SWc 18-7-5.

SEMINOLE COUNTY — Transcontinental Oil Co. Davis 1, NE SE 22-7-7, cave 3442 ft. Riverside & Kinney Nitley 1, C S½ NE SE 24-5-5, rig and tools. Independent O & G. Co.'s NEc SE NE 13-7-9, 2595 ft. Superior Oil Corp. Noble 1, NW NE NW 15-9-6.

WASHITA COUNTY—Meridan Pet. Co. No. 1, SE SE SE 14-9-15w, lcn.

Kansas

BARBER COUNTY—R. B. Brown No. 1, NWc 14-34-11w, dr 750 ft.

BARTON COUNTY—Cheyenne O. & G. Co. Sooy 1, SWc SW 27-12-12w, sd 3525 ft. Haynes et al Tuall 1, NWc 21-12-12w, sd 2100 ft. John Harrons No. 1, SEc NE 22-18-13w, dr 4295 ft. Huffine et al Smith 1, C NE SW 21-19-12w, sd 2300 ft

CLOUD COUNTY—Concordie Oil & Prod. Co. Murdock 1, SEc 6-6-4w, show oil 2700 ft.

GEERY COUNTY—Liberty-Texas Wright 1, NEc 9-12-6, sd 750 ft.; Foster 1, NEc SW 3-12-6, sd 2000 ft.

GRAHAM COUNTY—Keyes Bros. & Marine Thaxton 1, SEc NW 23-8-24w, sd 2000 ft. Gruen & Shilers Baker 1, NWc SE NW 17-10-24w, rig.

JEFFERSON COUNTY—Northern Counties Edwards 1, SEc NW NW 13-8-9, sd 3405 ft.

LABETTE COUNTY—Arkansas Fuel Oil Co. Sparks 1, NEc SE SE 14-31-17, sd 1110 ft.

LINCOLN COUNTY—Equity Oil Co. Jellison 1, NWc SE 19-13-9w, fsh 3530 ft. Scott & Collins Stone 1, SEc SW NE 19-11-6w, sd 500 ft.

NEMAHA COUNTY—Nemaha O. & G. Co. Meyers 1, NWc 19-3-11, sd 3250 ft.

OSBORN COUNTY—H. A. Beasley Turner 1, NEc 10-7-12w, dr 600 ft.

OSAGE COUNTY—Rodgers & Bittle Bertha 1, SEc NW 22-17-16, lcn Mul-Vit Dev. Co. Neil 1, NEc NW SW NE 8-17-17, sd 2735 ft. Baker et al No. 1, C SE SE 3-15-15, sd 260 ft.

RENO COUNTY—Frank Hopper Bay 1, NW 7-26-7.

RICE COUNTY—Stamey Barnes 1, SEc NE 21-20-6w, sd 3640 ft. Jasper & Beschka Walker 1, SWc NE10-18-6w, dr 2825 ft.

RILEY COUNTY—Pawnee O. & G. Co. Marks 1, SEc NE NW 26-10-6, dr 2400 ft.

ROOKS COUNTY—Keyes Pet. Co. Sandon 1, NWc SW SE 7-8-20w, sd. C. Findeiss et al Minx 1, SWc 25-10-19w, dr 3312 ft.

SALINE COUNTY—Thrall et al No. 1, SEc NE NW 15-15-4w, sd 1010 ft.

SEDGWICK COUNTY—Curtis et al Duncan 1, SEc NW NW 19-22-1w, dr 2360 ft. Allison & Fitzwilliams Webb 1, C NE 21-29-3w, dr 510 ft.

TREGO COUNTY—Keyes Pet. Co Walsh 1, NWc SE 7-11-25w, sd 1450 ft.; Walsh 2, SWc SE SW 5-11-25w, sd 1550.

WABAUNSEE COUNTY — Williams et al No. 1, NEc SW 15-13-12, sd 3600 ft.

WOODSON COUNTY—Alter et al Hunt 1, NWc SW 13-25-14, sd 700 ft.

5 Advantages

of the

Ratigan No. 1 Shock Absorber

1. Makes a "Spring Hook" of any Tubing or Sucker Rod Hook in the field.
2. Saves many rod jobs, preventing crystallization by taking the shock of the "pick up" off the rods.
3. Prolongs the life of your entire pumping equipment by relieving it of the usual strain.
4. Requires Absolutely No Oil.
5. Assures faster, safer, more economical pumping operations.

By preventing one rod job only, the Ratigan Shock Absorber will more than pay for itself. It will prevent hundreds of such jobs—calculate its value to you in that respect alone.

Ask your supply house about it or write us direct

J. P. Ratigan

1213 Santa Fe Avenue
Los Angeles, Calif.

Mid-Continent Fields and Rocky Mountain District: Frick-Reid Supply Co.
Pacific Coast Fields: All Supply Houses

PERMITS GRANTED FOR NEW WELLS

Weekly Comparison of New Wells

Following is a condensed table giving a comparison of permits or locations made for new wells in Kansas, Oklahoma, Arkansas, Louisiana, Texas and California:

	Number of Wells for Week Ending															
	May 22	May 29	June 5	June 12	June 19	June 26	July 3	July 10	July 17	July 24	July 31	Aug. 7	Aug. 14	Aug. 21	Aug. 28	Sept. 4
Kansas .	27	29	44	40	19	29	50	39	31	41	37	24	42	37	20	38
Oklahoma	95	114	106	93	104	115	80	96	66	69	76	60	84	..	61	76
Arkansas	77	62	67	40	64	41	4	53	72	63	22	46	16	37	14	33
Louisiana	12	8	16	18	8	8	11	9	15	9	8	9	12	10	10	14
Texas . .	130	167	221	198	204	206	168	176	203	208	163	210	209	222	115	204
California	29	33	24	33	37	30	49	34	28	25	17	26	8	37	26	....
Total .	370	413	478	422	436	429	362	407	415	415	323	375	371	343	246	*365

*Does not include California permits.

LOUISIANA

ACADIA PARISH—Etropal Oil Company, Timothy Regan 1, 8-10s-1w, 400 ft E and 50 ft N of SW cor NE¼ of NW¼.

Bossier Parish—Geo. W. Wetherbee Fee F-12, 23-19n-11w, 150 ft S and 150 ft E of NW cor SE¼ of NE¼.

Caddo Parish—M. J. Bratcher Files 1, 10-20n-16w, 200 ft S and 460 ft E of NW cor of sec. R. O. Roy Hutchinson 1, Twp. 16n-R. 12w, 19,388 ft E and 1280.8 ft N of SW cor of Twp. 16. R. O. Roy Hutchinson-Frierson 2, Twp. 16n-R. 12w, 17,649.1 ft E and 3,811.84 ft N of SW cor of Ewp. 16N. R. O. Roy Hutchinson 3, Twp. 16n-R. 12W, 13,432 ft E and 2,504.6 ft S of SW cor Twp. 16N.

Calcasieu Parish — The Union Sulphur Co. Klein 1, 4-9s-10w, 1176 ft E and 407 ft N of SW cor NW¼ of SW¼; Land 1, 34-8s-10w, 1243 ft W and 808 ft N of SE cor NE¼ of NE¼; Fee 716, 29-9s-10w, 667 ft W and 22 ft S of center of sec; A. S. Vincent 1, 36-10s-10w, 335 ft S and 90 ft W of NE cor NW¼ of NE¼; E. A. Vincent 1, 36-10s-10w, 110 ft N and 190 ft W of SE cor of NE¼.

La Salle Parish—Cragg & Crowson King 1, 36-10n-1e, 200 ft W and 860 ft S of NE cor of sec. Finn & Ball T. E. King 1, 25-10n-1e, 150 ft N and 150 ft W of SE cor SW¼ of SE¼.

Red River Parish—Clark & Greer Drilling Company LeGrand 1, 2-14n-12w, 200 ft S and 200 ft E of NW cor of SW¼ of SW¼.

KANSAS

Butler County—Ramsey Pet. Co., No. 1 De Ford, northwest corner of 14-23-7. John Rodgers, No. 1 Lucas, southwest corner of Lot 25, of 6-27-8.

Coffey County—Burge et al No. 1 McFadden, northwest corner of 29-19-16.

Cowley County — Shawver & Sutter, No. 1 Horneday, southeast corner of the southwest of the southeast of 10-30-4. Arkansas Fuel Oil Company No. 1 Erickson, southwest corner of 20-30-4. Derby Oil Company No. 1 Waite, southeast corner of the southwest of the 21-31-4. Trees Oil Company No. 2 Emery, southwest corner of the northwest of the southeast of 28-31-4. J. R. Hull No. 13 Kukuk, southeast corner of the northeast of 24-32-4. J. A. Hull No. 11 Wallace, northeast corner of the southeast of the 24-32-4.

Elk County—Empire Gas & Fuel Company No 4 Porter, center of the north line of the southwest of the northeast of the northwest of 13-29-8. Anderson Brothers No. 4 Smith, center of the south line of the southeast of the northeast of 21-29-1, completed. Roth & Company No. 12, southeast corner of the northwest of 12-29-8. Angelo Oil Company No. 1 Mullendore, northwest corner of the southwest of the southeast of 3-30-9. Conley et al No. 3 Tate, northeast corner of the southwest of 3-30-9. Elk Petroleum Company No. 3 Denton, northwest corner of the southeast of 3-30-9. Elk No. 8 Kiper, northeast corner of the southwest of the northwest of 10-30-9. Denton et al No. 11 Denton, southwest corner of the northeast of 3-30-9. Glaiman & Barber No. 1 Donald, center of the south line of the half of the northwest of 12-30-9. Gregory Brothers No. 1 Fleek, southwest corner of the northeast of 21-30-11. Pennock Oil Company No. 4 Collier, southwest corner of the northwest of the southwest of 30-30-11. Anderson Bros. No 1 Logsden, center of the southeast of the southeast of 16-31-10. Pure Oil Company No. 6 Chaffin, center of the north line of the northwest of the southeast of 14-31-10. Southwestern Gas Company No. 3 Leffingwell, center of the east line of the east half of the southwest of 14-31-10. Southwestern No. 9 Webb, center of the southeast of the northeast of 14-31-10. Southwestern No. 10 Webb, center of the south line of the southwest of the northeast of 14-31-10. R. G. Gillespie No. 1 Parick, southeast corner of 22-31-10.

Greenwood County—Davis Hazlett No. 7 De Malorie, southeast corner of the northwest of the southwest of 7-22-11. Mid-Continent Pet. Corp. No. 4 Clopton, northwest corner of the southwest of the southwest of 18-22-11. Mission Oil Company No. 2 "B" Dales, southwest corner of the southeast of the northwest of 25-23-8. Phillips Pet. Company No 3 Hemple, suthwest corner of the northeast of 20-27-9; No. 3 Phillips, northwest corner of the southeast of 20-23-9. Arkansas Fuel Oil Company No. 13 Marshall, southwest corner of the northeast of the southwest of 1-24-9. Mid-Kansas No. 3 Ladd, northwest corner of the south west of the northeast of 19-25-9; No. 5 Ladd, northeast corner of the northwest of the northwest of 20-25-9.

Marion County—Brenman & Wixon No. 1 Robinson, northeast corner of the northwest of 31-20-5. Sheedy et al No. 1 Allison, southwest corner of the northeast of 24-21-4.

Russell County—Cassoday Oil Company No. 1 Kollman, southeast corner of the northwest of the northwest of the northwest of the northeast corner of the northwest of the northwest of 5-12-15w.

OKLAHOMA

Noble County—Magnolia Pet. Company and Bu Vi Bar Pet. Company No. 1 Reynolds, center of the northeast of the northwest of the northwest of 21-21-2w.

Osage County—Peters-Oliphant No. 4, center of the northwest of the northwest of the northwest of 17-27-6.

Garfield County—Lucky Seven Oil Company No. 1 Gibson, southeast corner of the southwest of the southeast of 25-23-4. Cosden-Marland No. 57 School Land, center of the northwest of the southwest of the southeast of 13-22-4w; No. 58 School Land, center of the northwest of the northeast of the southeast of 13-22-4w; No. 59 School Land, center of the southeast of 13-22-4w; No. 60 School Land, center of the southeast of the northwest of the southeast of 13-22-4w. Sinclair Oil & Gas Company No. 25 Walker, center of the southeast of the southwest of the northeast of 13-22-4w; No. 26 Walker, center of the northwest of the southwest of the northeast of 13-22-4w; No. 23 Kisner, center of the northwest of the northeast of the northwest of 19-22-3w; No. 24 Kisner, center of the southeast of the northwest of the northwest of 19-22-3w; No. 20 Campbell, center of the southwest of the northeast of 30-22-3w. Chas. E. Knox No. 2 McLean, southeast corner of the northwest of the northwest of the southwest of 31-22-4w. Haley, Garber & Pulse No. 2 Whitney, center of the northeast of the southwest of the northeast of 18-22-3w. Roxana Pet. Corp. No. 7 Schroeder, center of the southeast of the northwest of the southwest of 18-22-3w; No. 8 Schroeder, center of the northeast of the northwest of the southwest of 18-22-3w. Dieckwald Oil Company No. 1 Cain, center of the southeast of the southeast of the southeast of 5-21-3w.

Creek County—T. B. Slick No. 1, southwest of the northeast of 5-19-8. Waite Phillips No. 1 Alec, southwest corner of the northeast of the southeast of 22-17-8. Skelly Oil Company No. 7 McKan, northwest corner of the southwest of the southwest of 12-14-8. Texas Company No. 3 Beavers, southwest corner of the northwest of the 13-14-8. J. H. Wright No. 10 Tahkaney, northwest corner of the southeast of the southeast of 24-17-10 Shaffer Oil & Ref. Company No. 2 Wacoche, center of the north line of the northwest of the northeast of 17-17-11. Tibbens Oil Company No. 16 Unallotted, southeast corner of the northwest of 30-15-9. Donnelly et al No. 4 Johnson, center of the south line of the southeast of the southwest of 17-14-10. Gladys Belle Oil & Gas Company No. 2 Johnson, northeast corner of the southwest of the southwest of 17-14-10.

Lincoln County—Magnolia Pet. Corp. No. 5 Sproleder, southwest corner of the southeast of the southeast of 34-15-15. Skelly Oil Company No. 1 Hopkins, northwest corner of the southwest of the northeast of 2-14-5. Texas Company No. 6 Tipton, northwest corner of the southeast of the southwest of 2-14-5; No. 7 Tipton, southwest corner of the southeast of the southwest of 2-14-5. Twin State Oil Co. No. 5 of the northwest of 2-14-5; No. 6 Bigwater, Southwest corner of the northeast of the northwest of 2-14-5. Carter Oil Company No. 2 Tuttle, southwest corner of the northwest of the northeast of 2-14-5. Magnolia Pet. Company No. 8-A Sukovaty, northeast corner of the southeast of the northwest of 2-14-5; No. 7-A Sukovaty, southwest corner of the northeast of the southwest of 2-14-5; No. 7-F Sukovaty, northwest corner of the northeast of the northeast of 3-14-5; No. 8 F. Sukovaty, southwest corner of the northeast of the northeast of 3-14-5. Selby & Southwestern No. 8 Bagwell, southwest corner of the northeast of the southeast of 3-14-5.

Muskogee County—Black Jack No. 1 Grunnett, center of the east line of the northeast of the southeast of 9-15-7.

Wagoner County — Larsarsky No. 3 White, northeast corner of the southeast of the northwest of 25-17-16. Eastern Oklahoma Oil Company No. 2 Tiger, southwest corner of the north

half of the northwest of the southwest of 21-18-16.

Tulsa County—Sand Springs Home Oil Company No. 1 Unallotted, southeast corner of 12-19-11. Penncck Oil Company No. 9 Thomas, southwest corner of the northeast of the northwest of 20-10-11. Riverland Oil Company No. 1-A Hardridge, northwest corner of the southeast of the northwest of 20-19-11. Brooks Drilling Company No. 3 Unallotted, center of the east line of the southwest of the southwest of 20-19-12. Wilson No. 7 Postoak, southeast corner of the southwest of the northwest of 29-19-12. Hall et al No. 1-A Childers, center of the east line of the northeast of the southwest of 35-18-14. McMahon No. 2 Johnson, center of the north line of the southwest of the southeast of 35-18-14.

Okmulgee County — Sheridan Oil Company No. 5 Sulley, northwest corner of the southwest of 3-15-11. Meridan Oil Company No. 2 Unalotted, center of the north line of the southwest of the northeast of 1-15-12. Phillips Pet. Company No. 5 Rowe, southeast corner of the northwest of the northeast of 1-15-12. Olean Petroleum Company No. 3 Cover, southeast corner of the northwest of the southeast of 11-15-12. Magnolia Petroleum Company No. 9 Thomas, southwest corner of the northeast of the northwest of 1-11-13. Pulaski Oil Company No. 6 Blackwell, northeast corner of the northwest of the northwest of 1-11-13. Gray No. 2 Micksens, southwest corner of the southeast of the southeast of 5-12-13. McInturuff No. 2 Hawkins, center of the west line of the southwest of the southeast of 20-12-14. Hazlett No. 1 Freeman, center of the east line of the northwest of the northwest of 7-13-15. Hope Corp. No. 4 S. Anderson, northwest corner of the southwest of the southeast of 22-15-13. Frisco No. 1 G. Fife, center of the south line of the southeast of the northwest of 25-15-13.

Stephens County—Loco-Kinzey No. 1-A Hinser, northwest corner of the southwest of the northwest of the southwest of 31-1n-8w. Western Oil Company No. 1 Potts, northeast corner of the northeast of the southeast of the southwest of 32-1s-8w. Pace-Muse et al No. 1 Fobb, southwest corner of the southwest of the northeast of the southwest of 12-2s-8w. Durke & Coates No. 1 Sutherland Northwest corner of the northwest of 13-2s-8w.

Carter County—Atlantic Oil Producing Company No. 3 Dolman, center of the northeast of the northeast of the southwest of 25-2s-3w. Carter Oil Company No. 1 Pierce, center of the northwest of the southwest of the southwest of 8-2s-3w. Coline Oil Company No. 3 Mullen, center of the northwest of the northwest of the southeast of 8-3s-2w.

McIntosh County—Gypsy Oil Company No. 1 Barrett, southeast corner of the southwest of the southwest of 17-10-14.

Okfuskee County — Independent Oil & Gas Company No. 1 Larry, northeast corner of the southeast of the northeast of 14-12-11. Continental Oil Company No 7 New House, center of the east line of the northeast of the northwest of 20-12-12. Continental et al No. 2 Grayson, center of the west line of the northwest of the northeast of 20-12-12. Eagle Picher No. 2 Yarhola, center of the south line of the northeast of the southwest of 25-11-9.

Hughes County—Phillips Pet. Company No. 8 Caney Arber, center of the northeast of the southeast of the southeast of 3-9-9.

Commanche County—Brewer, Stacy et al No. 1 Blair, northwest corner of the northwest of the southwest of the northeast of 27-2n-10w. Westheimer Duable No. 1 Indian, northeast corner of the northeast of the northwest of the southeast of 30-2n-9w.

Seminole County—Magnolia Petroleum Corp. No. 3 Siriam, center of the southwest of the southeast of the northwest of of 33-8-6.

Grady County—J. B. Nicholas No. 1 Dryden, southeast corner of the southwest of the southeast of 35-5-8w.

ARKANSAS

Calhoun County—Gulf Ref. Co.'s Freeman-Smith 1, 31-15-13, 300 ft N and E of SWc NW¼. Gerald et al's Freeman-Smith 1, 35-15-13, SWc of section.

La Fayette County—Humble O. & R. Co.'s Bodcau-Waldrip 1, 15-15-22, 200 ft S and E of NWc of section.

Miller County—Humble O. & R. Co.'s Dorsey 1, 2-17-26, 150 ft S and W of NEc NW¼ NW¼.

Ouachita County—Bailey & Murray's Rhoten B-7, 32-15-15, center north line SE¼ SW¼ NW¼. Empire Gas & Fuel Co.'s Bradley 7, 30-15-15, SWc SW¼ SE¼. Humble O. & R. Co.'s F. A. & B. T. Laney 10, 32-15-15, NEc NW¼ SW¼. Imperial O. & G. Co.'s McClanahan 7, 6-16-15, SEc N½ Lot 3 NE¼. E. S. Kelley's Reynolds 1, 17-14-15, 300 ft S and 2060 ft E of NWc of section. Lion O. & R. Co.'s Forrest City Box 1, 25-15-15, SWc NW¼ SW¼. Phillips Pet. Co.'s Harris 8, 34-15-15, NEc SW¼ SE¼. Pure Oil Co.'s Brister 10, 28-15-15, 300 ft N and 2420 ft E of SWc of section; Brister A-5, 28-15-15, 150 ft N and 2032 ft E of SWc of section. Simms Oil Co.'s Berg 1, 32-15-15, center north line E½ SW¼ NE¼; Berg 2, 32-15-15, SWc E½ SW¼ NE¼. Sinclair Oil Co.'s Berry 16, 33-15-15, NEc NE¼ NW¼. The Texas Co.'s Berry 10, 33-15-15, 150 ft N and W of SEc SW¼ NW¼; Neeley 5, 27-15-16, 150 ft N and W of SEc SE¼ NE¼.

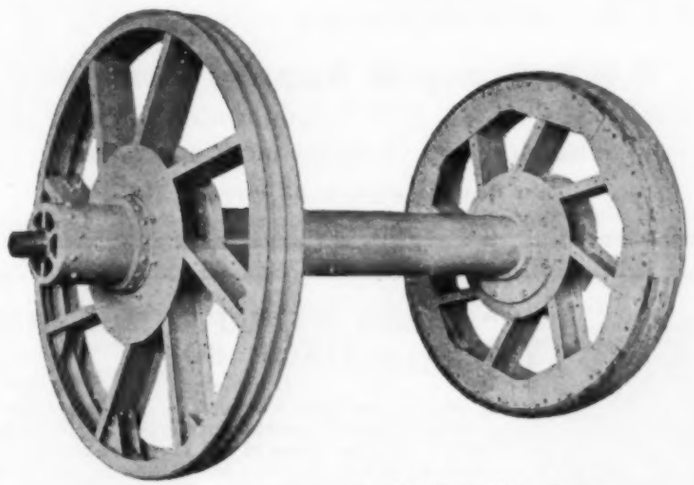
Union County—Arkansas Fuel Oil Co.'s Ferguson 10, 6-16-15, SWc NW¼ SW¼. Clark & Greer's Tufts 1, 7-17-14, SEc NE¼ SW¼. Clement Oil Co.'s Moody 4, 18-17-14, NEc N½ NW¼ NW¼. Crawford & Sebastian's *Graves 4, 3-16-15, 200 ft N and E of SWc E½ SW¼ NE¼. Gulf Ref. Co.'s McMullen 1, 1-16-16, 1120 ft N and 200 ft W of SEc of section; Werner 41, 6-16-16, 1520 ft N and E of SWc of Section. Hollifield et al's *Giller 12, 10-16-15, SWc NE¼ SE¼. Keen & Woolf's *Murphy 4, 9-16-15, center of East line E½ SE¼ NW¼. Lyall et al's Fee 13, 3-16-15, center north line S½ SE¼ NW¼. Mazda Oil Corp.'s Lawton R-2, 10-16-15, 150 ft S and E

You tell 'em O'Sage

"There are bull wheels and bull wheels," said Bill, the Guesser, wearily as he talked.

"There are the ones that will get you right in the middle of a job and break down, or keep you sweating for fear something might happen, and there are ordinary bull wheels that will slip a rope whenever you put a heavy load on them."

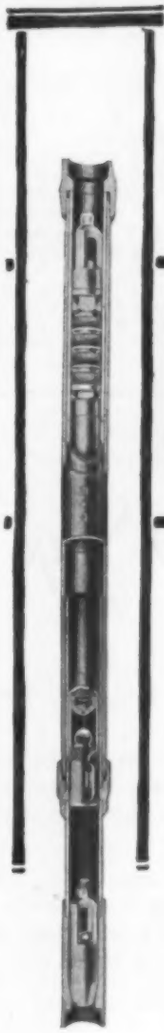
And then there are Bradford Steel Bull Wheels—you can depend on them—as steady and dependable as the Rock of Gibraltar. I'd rather work at smaller wages on a job where there's a Bradford bull wheel than be bothered with one of those ramshackle ones."



Bradford Steel Products:

Steel Calf Wheels — Steel Crown Blocks
Steel Band Wheels — Steel Tug Rims

BRADFORD RIG & REEL CO.
TULSA OKLAHOMA



There's a D-B Pump for every *Pumping Purpose*

"D-B"
QUALITY FIRST

Practically every known condition common to oil well pumping is comprehended in the complete line of D & B Pumps in their various combinations, as equipped with D & B fittings. The various combinations insure you the maximum efficiency and economy in pumping under individual and distinctive conditions and requirements. . . . . The pump illustrated is the D & B Parker Style with 4-cup upper extension and Thompson Gas Valve complete. With this arrangement there is no opportunity for the gas to expand and contract between valves, as the plunger bottom valve comes down very close to the standing valve at the bottom of the stroke. . . . . Send for our special chart showing D & B Pumps in various combinations.

D & B Pump & Supply Company

301 West Avenue 26 LOS ANGELES, CALIFORNIA

Branch Factory: P. O. Box 1033, Dallas, Texas

Sales Representatives in All Principal Fields

"DIESEL & OIL ENGINEERING HAND BOOK"

(Rosbloom)

This 850 page book may well be considered the most complete volume of instruction for power production by Diesels and other types of Oil Engines. A special section is devoted to practical instruction in Oil Field Engineering from location of well to the final phase in drilling.

Written in co-operation with the world's leading authorities in the Oil Engine as well as the Oil Field Industry. Illustrated with hundreds of views of practical nature, color-inserts, blue-prints, tables, etc.

Bound in artistic, durable, semi-flexible binding. Price, $5.00. Send check to

THE GULF PUBLISHING COMPANY
P. O. Box 1307, Houston, Texas

of NWc NE¼ SW¼. Morgan et al's Ezell 2, 12-17-15. Natural Gas & Pet. Corp.'s Holloway 1, 6-16-16, 330 ft S and 150 ft E of NWc S½ SW¼ SE¼. Sun Co.'s Hayes 19, 3-16-15, 633 f N and 300 ft W of SEc Lot 2 NW¼. The Texas Co.'s *raves 9, 3-16-15, 1170 ft N and 460 ft E of SWc SW SE¼; *Graves 11, 3-16-15, 150 ft S and 200 ft W of NEc SW¼ SE¼; McGraw 1, 12-16-17, SEc NE¼ NE¼. Zoder et al's Allen 5, 18-17-14, NWc NE¼ SE¼.

*Old wells to be drilled deeper

TEXAS

Archer County—Gulf Prod. Co., Fort Worth, Texas, G. Palmer 1, S 72, W. V. F. L. sur, 660 ft to S and E lines.; E. S. Monahan 18, 1599 TE&L sur, 300 ft N No. 14; A. P. Nichols 15, S 37, Amer. Trib. sur, 300 ft W No. 14. Prairie Oil & Gas Co., Ranger, Texas, J. T. Richardson D 2, S. Anderson sur. Norday Oil Co., Wichita Falls, Texas, J. L. Anderson 5, B 21, S. Anderson sur, 300 ft E No. 4. Texas Co., Wichita Falls, Texas, R. E. Hill 9, 2408 TE&L sur, 308 ft W No. 7; J. T. Richardson 9, S. Anderson sur, 326 ft W No. 10; J. T. Richardson 10, S. Anderson sur, 150 ft to N and 1170 ft to E line. Sunshine Sheldon Drilling Co., Wichita Falls, Texas, Parrish 1, B 77, Amer. Trib. sur, 150 ft to N and W lines. Perkins & Cullum, Wichita Falls, J. L. Anderson 5, B 22, S. Anderson sur, 450 ft to S and W lines. Texhoma Oil & Ref. Co., Wichita Falls, Texas, W. H. Portwood 4, 2411 TE&L sur, 150 ft to N and E lines. Atlantic Oil Prod. Co., Magnolia Bldg., Dallas, Texas, L. F. Wilson C 9, B 23, Amer. Trib. sur, 150 ft to N and E lines. Crabtree & Carrico, Wichita Falls, Texas, J. R. Parkey 1, B 24, DCSL sur, 150 ft to S and W lines. Jones Oil Co., Box 1040, Wichita Falls, Texas, J. H. White 1, B 29, Amer. Trib. sur. Himmell & Dillard, Wichita Falls, Texas, Kemp & Kempner 9, B. 42, WVFL sur. Empire Gas & Fuel Co., Staley Bldg., Wichita Falls, Texas, L. F. Wilson 12-B, B 23, Amer. Trib. sur, 320 ft N No. 7. Brown, McCalister & Lickey, City Nat. Bank Bldg., Wichita Falls, Texas, Falls C. S. L. 1, Blk 57, center of blk 57; Falls C. S. L. 2, blk 62, 150 ft to S and E lines of blk 62. Phillips Petroleum Co., Bartlesville, Okla., M. White 85, B 35, Amer. Trib. sur, 707 ft to W and 1050 ft to S line.

Brazoria County—Humble Oil & Ref. Co., Houston, Texas, Wilson B 1, Wilson sur. E. F. Hamm et al, Chicago, Ills., J. P. Bryan 2, Areola sur, 440 ft to W and 450 ft to S line.

Brown County—J. K. Hughes Dev. Co., Mexia, Texas, Mrs. S. J. Moore 80, 1, S. C. Bailey sur, 150 ft to N and W lines; J. T. Arledge 2, N. B. Mitchell sur, 300 ft E No. 1. Jas. McCamey, Rising Star, Texas, F. P. Clark 1, S 24, H. P. Brewster sur, 150 ft to E in center of line. C. O. Moore & Florence Oil Co., Cross Plains, Texas, H. Baxter 5, Wm. Miller sur, 300 ft N No. 3. H. A. Thomson, Jr., Box 35, Brownwood, Texas, C. Newsom 3, M. M. Flores sur; G. M. Grooms 4, J. M. Ross No. 609 sur, 150 ft to N and E lines. F. M. Godwin, Brownwood, Texas, M. H. Dunman 1, No. 21 St. John sur, 660 ft to SE and 3805 ft to W line. Mahlstet-Mook Oil Co., Fort Worth, Texas, I. H. Madison 1, S. Ingram sur, 150 ft to S and E lines. C. O. Moore et al, Cross Plains, Texas, E. P. Kilgore A1, N. B. Mitchell sur, 150 ft to W and 1070 ft to S line.

Baylor County—Maer & Staniforth, City Nat. Bank Bldg., Wichita Falls, Texas, W. B. Mills 2, 2428 TE&L sur, 150 ft to N and 450 ft to E line. Petroleum Prod. Co., City Nat. Bank Bldg., Wichita Falls, Texas, W. B. Mills 1, 2427 TE&L sur, 150 ft to W in center of line. Maer & Staniforth, City Nat. Bank Bldg., Wichita Falls, Texas, W. B. Mills 14, 2428 TE&L sur, 300 ft S No. 3.

Bexar County—Jarmon & Witherspoon, Box 933, San Antonio, Texas, M. Klemcke 3, A. McSnyder No. 272 sur.

Callahan County—A. G. Malone, West 10th St., Cisco, Texas, City Blk. 1, Blk. 75 Cross Plains sur, 140 ft to N and W lines. R. H. Lake, Putnam, Texas, D. H. Cunnnigham 1, 136 sur, 1580 ft to W and 1687 ft to S line. Mrs. L. E. Miller, Box 1156, Breckenridge,

Texas, M. Kane C2, 2272 TE&L sur, 300 ft W No. C1. Sirmans Oil Co., Cisco, Texas, J. Woods 2, 2291 TE&L sur 150 ft to S and W lines. Col. B. M. Hatfield, Fort Worth, Texas, G. Brandon 1, S 4, Bayland Asy. sur, east central. C. O. Moore et al, Cross Plains, Texas, M. A. White 1, S 74, CCSL sur, 150 ft to N and W lines. M. K. Ward, Waxahachie, Texas, G. Anthony 1, S 1, D&D Asy sur, 300 ft W No. 2; G. Anthony 2, S 1, D&D Asy. sur, 150 ft to S and E lines. B. G. Dowell, Cisco, Texas, Diller Bros. 1, S 55, L. A. L. sur, 450 to N and W lines. Lowe, Delaney & Carter, De Leon, Texas, L. Wagner 1, B 76, Central Add. O. B. Sudderth, Box 594, Ranger, Texas, T. C. Thorn 1, R. Edwards sur, 200 ft to N and W lines. Geo. W. Nickel et al, Putnam, Texas, S. M. Davis 12, S 8, Bayland Asy. sur, 300 ft N No. 9. F. L. Swicegood, Eastland, Texas, O. Wagley 3, 2996 TE&L sur, 450 ft to N and 750 ft to W line. F. E. Skinner, 3529 Asbury St., Dallas, Texas, White & Harris 1, Cross Plains sur, NW cor. M. Neeb, 1, Steele Add. sur, center of Blk. 12. Canyon Oil & Gas Co., Cross Plains, Texas, C. W. Barr 1, W. G. Anderson sur, 170 ft to E and 200 ft to N line. F. E. Davis, Vernon, Texas, H. Wagley 1, S 19, Bayland Asy. sur, 150 ft to S in center of line. Canyon Oil & Gas Co., & Cranfill & Reynolds, Cross Plains, Texas, J. E. Crockett 2, CCSL sur, 300 ft W No. 1; J. E. Crockett 1, CCSL sur, 150 ft to N and 450 ft to E line; S. C. Barr 1, W. G. Anderson sur, 150 ft to N and 90 ft to W line; J. W. Harris 8, Wm. (Coleman County). H-Y Oil Co., Inc., Box 642, Fort Worth, Texas, I. C. Woods 21, 300 ft W No. 22; I. C. Woods 22, 900 ft to E and 475 to S line. Sargent & Lyda, Putnam, Texas, J. H. Wagley 1, 2999 TE&L sur, 450 ft to W and 1650 ft to S line. Mahlstet Oil Co., Fort Worth, Texas, H. Wagley 1, 2999 TE&L sur 150 ft to S and W lines. C. O. Moore et al, Cross Plains, Texas, W. Franke 1, S 55, CCSL, 150 ft to S and W lines. J. I. Epstein, 617 Chestnut St., St. Louis, Mo., Z. C. Wagley 3, S 56, LAL sur, 300 ft W No. 2.

Coleman County—Canyon Oil & Gas Co., & Cranfill & Reynolds, Cross Plains, Texas, J. W. Harris 8, Wm. Mason sur, 400 ft E No. 7. M. E. Wakefield et al, Cross Plains, Texas, J. Key 7, A. Wickson sur, 480 ft S No. 1.

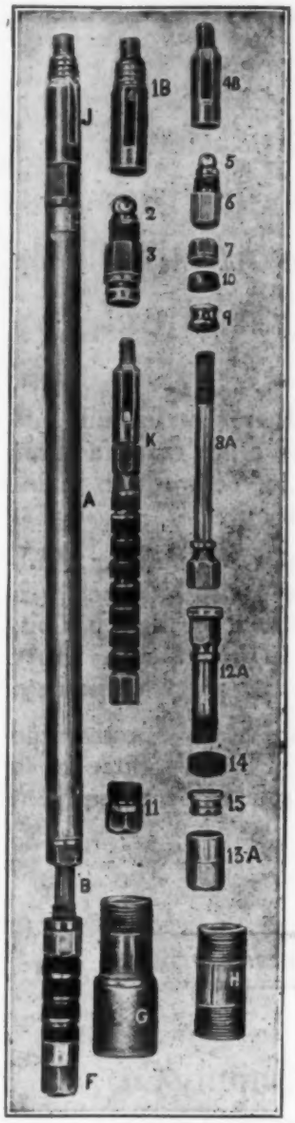
Caldwell County—Witherspoon Oil Co., San Antonio, Texas, Mrs. F. A. Cardwell 14, J. Burleson sur, 311 ft SW No. 11. Gulf production Co., Houston, Texas, C. H. Beaty 19, J. Burleson sur, 925 ft to W and 1338 ft to S line; C. H. Beaty 20, J. Burleson sur, 650 ft to S and E lines; C. H. Beaty 21, J. Burleson sur, 600 ft SW No. 20; M. L. Brewer 23, J. Burleson sur, 550 ft to W and 400 ft to S line; M. L. Brewer 24, J. Burleson sur, 1150 ft to W and 478 ft to S line; W. H. Riddle 3, Wm. Templin sur, 250 ft SW No. 1; A. T. Cardwell 17, J. Burleson sur, 550 ft to E and 600 ft to N line; A. T. Cardwell 16, J. Burleson sur, 300 ft SE No. 14; A. T. Cardwell 18, J. Burleson sur, 675 ft SE No. 17; A. T. Cardwell 19, J. Burleson sur, 320 ft SE No. 16. Eagle Drilling Co., Lockhart, Texas, Mrs. F. A. Cardwell 1, J. Burleson sur, 150 ft to N and 450 ft to E line. Witherspoon Oil Co., San Antonio, Texas, Mrs. F. A. Cradwell 12, J. Burleson sur, 622 ft SW No. 11; Mrs. F. A. Cardwell 13, J. Burleson sur, 311 ft NE No. 12. Texas Co., Houston, Texas, C. H. Beaty 14, J. Burleson sur, 150 to S and E lines.

Comanche County—O. Brown, Cisco, Texas, Eanes-Groves 4, S 56, D&D Asy. sur, 200 ft N No. 3; Eanes-Groves 5, S 36, D&D Asy. sur, 200 ft N No. 4; Eanes-Groves 6, S 56, D&D Asy. sur, 200 ft N No. 5; Eanes-Groves 7, S 56, D&D Asy. sur, 200 ft N No. 6; J. O. Groves 1, S 56, D&D Asy sur; J. O. Groves 2, S 56, D&D Asy. sur; J. O. Groves 3, S 56, D&D sur; J. O. Groves 9, S 56, D&D Asy. sur; J. O. Groves 10, S 56, D&D Asy. sur; J. O. Groves 11, S 56, D&D Asy. sur.

Clay County — Red Bank Oil Co., Castle Bldg., Tulsa, Okla, M. de Kinder 1, B 2, Clark & Plumb sur, 660 ft to S and W lines. Tarkentow & Barnes, Staley Bldg., Wichita Falls, Texas, C. Kafer 1, S 65, PCSL sur, 150 ft to S and W lines.

Casron County — Gates Oil Co., Oklahoma

Texas Style **IRON RODS**



PATENTED

Will Last Twice As Long • When You Use

NECO PUMPS

STOCKED IN THE MID-CONTINENT FIELD BY OIL WELL SUPPLY CO.

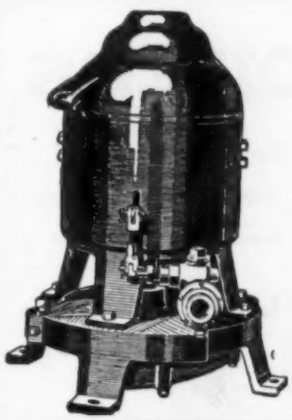
Manufactured by

NORTHRUP EQUIPMENT CO.

PARKERSBURG, W. VA.

FORT WORTH, TEXAS
F. J. Ackman, Rep., 2824 Lipscomb Street

NOWATA, OKLA, H. T. Torner, Rep.



For Rock-Bottom Economy Specify

FROST
VERTICAL GENERATORS

Built to Render Lasting, Efficient Performance

Becker Specialty Co.
(Exclusive Distributors)
415½ S. Boulder St. TULSA, OKLA.

No——!

Tough as sole leather; hard as hell!

If you don't like our bits we don't like your money!

WE SELL more fishtail bits than any other manufacturer in the world. We want to maintain that position.

Unless you KNOW your PELCO Bits make more hole between redressings, and more hole per bit, we want you to bring back as many as you have and get your money.

Any Supply Store is authorized to sell you PELCO Bits on a money-back guarantee of eminent satisfaction.

GOOD PEOPLE TO DO BUSINESS WITH

Pelican Well Tool & Supply Co.

General Offices: Shreveport, La.

BROWNELL BOILERS

Long Life — Low Maintenance

High Efficiency — Mechanically Correct

High Economy — Moderate First Cost

THE BROWNELL COMPANY

DAYTON, OHIO

Established 1855

City, Okla., S. B. Burnett 2, S 107, I&GN Ry. sur, 300 ft to W and 330 ft to N line.

Duval County — Humble Oil & Ref. Co., Houston, Texas, Schallert 3, SM&S sur, 1000 ft W No. 2.

Eastland County—Leon Oil Co., Eastland, Texas, J. W. Robinson 1, S 5, H&TC Ry. sur. Geneve & Lobaugh, Eastland, Texas, M. E. Holcomb 2, S 1, H&TC Ry. sur, 1000 ft to W and 450 ft to N line. C. D. Woods, Rte 4, Ranger, Texas, Mrs. M. J. Collins 1, S 3, H&TC Ry. sur, 350 ft to E and 150 ft to S line.

Fort Bend County — Gulf Production Co., Houston, Texas, J. H. P. Davis 5, No. 101 H&TC Ry. sur, 900 ft to W and 100 ft to S line.

Galveston County—Sun Oil Co., Beaumont, Texas, E. K. Cade C65, M. Dunman sur, NE cor of blk. 15.

Guadalupe County—Humble Oil & Ref. Co., Houston, Texas, J. A. Lowman 1, G. Allen sur, 300 ft to S and W lines.

Gray County — Young & Patrick, Fayette Bank Bldg., Lexington, Ky., B. F. A. Byrum 1, S 188, I&GN Ry. sur, 330 ft to S and E lines.

Harris County—Sun Oil Co., Beaumont, Texas, R. L. Blaffer 29, R. Dunman sur, SW No. 26. Stratton Ridge Oil Co., Freeport, Texas, Tolar & Dannenbaum 50, 18, J. E. Groce sur, 585 ft NW No. 15.

Hardin County—East Batson Oil Co., Batson, Texas, Donohoe, & Cashen 10, BBB&C Ry. sur, 552 ft to N and 120 ft to W line. Eagle Point Oil Co., Box 154, Daisetta, Texas, C. L. Jackson 2, Jackson sur, 90 ft N No. 1

Hutchinson County—Twin Six Oil Co., Amarillo, Texas, W. L. Kingsland 1, S 6 I&GN Ry. sur, 330 ft to E and 400 ft to S line.

Hood County—Cogdell, Amery & Ford, Granbury, Texas, R. E. L. Ray 1, B 26, T. Robinson sur, 200 ft to E in center of line.

Jim Hogg County—O. W. Killam, Laredo, Texas, A. Martinez 15, No. 256, blk 14, 220 ft to N and 250 ft to E line. J. T. Vela 1, S 580 blk 1, 450 ft to W and 150 ft to S line; A. Martinez 13, No. 256, blk 12, 300 ft N No. 10. B. M. Alexander, Loredo, Texas, J. T. Vela 2, No. 580, blk 1A, 180 ft E No. 1. Magnolia Petroleum Co., Dallas, Texas, A. Martinez 7, No. 256, 400 ft N No. 6.

Jones County — Red Bank Oil Co., Castle Bldg., Tulsa, Okla., J. M. Alexander 1, V. Baptsman sur, 250 ft to W and 1387 ft to S line.

Jefferson County—Porch & Telschow, 1716 Pease Ave., Houston, Texas, J. H. Trembly 1, blk 7, J. A. Veatch sur, 70 ft to W and 250 ft to N line. Gulf Production Co., Houston, Texas, Gladys 215, J. A. Veatch sur, N central part of blk 37. Yount-Lee Oil Co., Beaumont, Texas, McFaddin, Weiss & Kyle Land Co., 1, P. Humphreys sur, 820 ft to N and 23 ft to E line.

Liberty County—Old Colony Oil Co., Dayton, Texas, West Liberty Oil Co. 10, S 125, H&TC Ry. sur, 130 ft N No. 9. Gulf Production Co., Houston, Texas, Phoenix 58, J. Devore sur, 300 ft W No. 54.

Live Oak County—Glasco & Fallin, Corpus Christi, Texas, C. R. Tipps 2, R. Evest sur, 450 to N and 220 ft to W line.

Milam County—Chas. Rolff et al, Rte. 3, Manor, Texas, J. Brooke 1, S. C. Robertson sur, 154 ft to S and E lines. W. W. Bynum, Minerva, Texas, J. E. Hook 1, T. J. Chambers sur, 150 ft to S and W lines; J. E. Hook 2, T. J. Chambers sur, 150 ft to N and W lines. Earnest Oil Co., Rockdale, Texas, J. D. Hamilton 5, R. Milby sur, 150 ft to N and 170 ft to E line. Bartlett Production Co., Thorndale, Texas, H. T. Coulter 6, T. S. Arnett sur, 200 ft to E in center of line. Ellison Oil Co., Thorndale, Texas, J. P. Kevil, 2, T. S. Arnett sur, 150 ft to E in center of line. Chicago Oil & Land Co., Rockdale, Texas, W. E. Gaither 3, Chambers sur, 150 ft to N and W lines. Clear Lake Oil Co., Rockdale, Texas, H. T. Coulter

5, T. S. Arnett sur, 303 ft W No. 4. Rountree, White & Simpson, Rockdale, Texas, Fee 6, T. J. Chambers sur, 153 ft to N and W lines.

Matagorda County — Ryberg Oil Co., Bay City, Texas, H. Smith A1, H. Parker sur, 250 ft to E and 150 ft to S line

Mitchell County—Magnolia Petroleum Co., Dallas, Texas, W. W. Watson 1, S 20, 330 ft to N and E lines; L. Coleman 1, S 4, H&TC Ry. sur, 330 ft to S and E lines.

McMullen County—Grubstake Inv. Co., Commercial Nat. Bank Bldg., San Antonio, F. E. Aycock 1, J. Garner sur, 2000 ft to W and 150 ft to S line.

McMullen and Live Oak Counties — Grubstake Inv. Co., Commercial Nat. Bank Bldg., San Antonio, Texas, J. T. Brown 4, J. Turner sur, 3000 ft to N and 150 ft to W line.

Navarro County—Gulf Production Co., Houston, Texas, M. Hilburn 5, Wm. Hudson sur, 300 ft SE No. 4. Barkley & Meadows, Corsicana, Texas, I. N. Cerf B 4, J. Smith sur, 150 ft to W in center of line. Humble Oil & Ref. Co., Houston, Texas, L. T. Davis 22, J. B. Barry sur, 377 ft E No. 20; L. T. Davis 23, J. B. Barry sur, 184 ft N No. 9.

Orange County — Republic Production Co., Houston, Texas, Carrol 1, P. Lout sur, 300 ft to N and 700 ft to W line. Atlantic Oil Prod. Co., Magnolia Bldg., Dallas, Texas, F. T. Peveto 1, Wm. Dyson sur, NE cor.

Palo Pinto County—J. G. Jarvis 1425½ North Main St., Fort Worth, Texas, R. Hittson 1, S 33, T&P Ry. sur, 150 to N and 200 ft to W line.

Panola County—J. C. McCormick, Marshall, Texas, N. Griffin 2, J. Shandoin sur, 900 ft to N and 300 ft to W line.

Refugio County—Houston Oil Co., Houston, Texas, C. Heard 1, Refugio, 150 ft to N and E lines; F. B. Rooke 2, Thos. Mullen sur, 150 ft to N and E lines; F. B. Rooke A 1, Thos. Mullen sur, 500 ft to N and E lines.

Shackelford County—Hays, Bissey & Welge, Box 374, Albany, Texas, J. Leschber 2, S 545, TE&L sur. L. R. Buchanan et al Staley Bldg., Wichita Falls, Texas, A. McLaury 1, B 87, Univ. Lands sur, 220 ft to W and 450 ft to S line. Moutray Oil Co., & Reiter & Foster-Foster Oil Corp., Cisco, Texas, C. B. Snyder 9, S 37, LAL sur, 450 ft to N and W lines; M. J. Leach 1, S 23, LAL sur, 150 ft to N & W lines. Humble Oil & Ref. Co., Cisco, Texas, H. Palm 1, S 67, LAL sur, 680 ft to W and 150 ft to S line; H. Palm 2, S 67, LAL sur, 300 ft to E No. 1. C. F. Helf, Albany, Texas, C. F. Brown 3, S 67, LAL sur, 300 ft E No. 1. Cameron, Hotchkiss & Willard, Box 443, Baird, Texas, H. A. Jones 1, B 11, N. R. Brister sur, 370 ft to N and 1050 ft to E line. G. S. Anderson, Worth Bldg., Fort Worth, Texas, V. M. Formby 1, S 69, LAL sur, 450 ft to E and 150 ft to S line.

Stephens County — Price Russell & Co., Ranger, Texas, J. M. Bruce 1, S 50, T&P Ry. sur, north central.

Uvalde County — Humble Oil & Ref. Co., Houston, Texas, Kincaid 4, H. Soleto sur, 3560 ft to W and 9840 ft to S line.

Val Verde County—E. T. Williams, Del Rio, Texas, Val Verde Irrigation Co. 1, No. 139 sur, south central.

Wichita County — Underwood Drilling Co., Morgan Bldg., Wichita Falls, Texas, J. R. Pace 1, S 118, J. R. Scott sur, 150 ft to N and W lines. Homer Lee, Wichita Falls, Texas, J. J. Weibener 7, J. Aldridge sur, 150 ft to N and W lines; J & J Weibener 9, BBB&C Ry. sur, 150 ft to N and W lines. McClure & Sons, Iowa Park, Texas, W. D. McClure 5, S 5, GC&SF Ry. sur, 250 to N and 267 ft to E line. Ascot Co., Wichita Falls, Texas, J. E. Roller 22, W. A. Grady sur, 915 ft to N and 150 ft to E line. Texhoma Oil & Ref. Co., Wichita Falls, Texas, S. B. Burnett G 5, S 2, HT&B Ry. sur, 300 ft S No. 2; S. M. Daniels 29, Hastie; H. Beach 1B, Corrigan sur, 200 ft to S and E lines; S. B. Burnett C2, S 6, G. R. Meade sur, 340 ft S No. 1; Waggoner Bros. 3, S 11, BS&F Ry. sur, 150 ft to N and W lines. H. P. Bowser, Wichita Falls, Texas, T. F. Mitchell 5, P. Castleman sur, 300 ft W No. 4. Petroleum Prod. Co., City Nat. Bank Bldg., Wichita Falls, Texas, Kemp & Allen 14B, B 28, WVFL sur, 300 ft S No. 10; Kemp & Allen 15B B 28, WVFL sur, 300 ft S No. 13. Magnolia Petroleum Co., Dallas, Texas, H. Reilly 122, J. E. Ellis sur, 500 ft NE No. 116. Rubsam & Hunter, Westmoreland Apts., Wichita Falls, Texas, W. D. McClure 11, B 5, GC&SF Ry. sur, 300 ft W No. 8; W. D. McClure 10, B 5, GC&SF Ry. sur, 250 ft W No. 2. Ryan Petroleum Corp., Bartlesville, Okla., G. Nance 40, S. O. Fowler sur, 1500 ft to N and 3410 ft to E line; G. Nance 39, S. O. Fowler sur, 360 ft W No. 38. G. H. Rubsam, Kemp Kort Apts., Wichita Falls, Texas, W. H. Chilson 1, M. Ramsey sur, 150 ft to S and W lines. P. J. White, City Nat. Bank Bldg., Wichita Falls, Texas, T. F. Mitchell 2, B 12, P. Castleman sur, 150 ft to W and 216 ft to S line. Johnnie Tolbert Oil Co., Midlothian, Texas, R. J. Coleman 20, S 23, H&GN Ry. sur, 150 ft to N and W lines. A. D. Robinson, Kirby Bldg., Dallas, Texas, J. E. Roller 17, W. A. Grady sur, 300 ft SE No. 13. Texas Fidelity Oil Corp., 1314 9th St., Fort Worth, Texas, R. M. Peeler 16, H. B. Balch sur, 50 ft S No. 1. Van Nest Oil Co., Burkburnett, Texas, WF&NW Ry. 30, 300 ft S No. 29. T. F. Hunter, Wichita Falls, Texas, A. F. Dodson 16, Day Land & Cattle sur, 1620 ft to W and 132 ft to S line. Bullington, Lee & Pendleton, Staley Bldg., Wichita Falls, Texas, G. Jennings 3, S 12, HT&B Ry. sur, 219 ft N No. 1. Barnhart & Easton, Box 665, Wichita Falls, Texas, S. B. Burnett 10, B 2, HT&B Ry. sur, 50 ft N No. 6.

Wilbarger County — Landreth Production Corp., Breckenridge, Texas, W. T. Waggoner D3, S 43, H&TC Ry. sur., 150 ft to N and 490 ft to E line; W. T. Waggoner 4, S 42, H&TC Ry. sur, 282 ft to N and 182 ft to W line. Oxford Oil Co., Keystone Bldg., Houston, Texas, R. L. Castlebury 1, S 100 H&TC Ry. sur, 150 ft to N and 750 ft to E line. R. M. Waggoner et al, Wichita Falls, Texas, Bond, Hawkins & Williams 5, S 100, H&TC Ry. sur, 1460 ft to W and 150 ft to N line. Humble Oil & Ref. Co., Wichita Falls, Texas, W. T. Waggoner G 2, S 46, H&TC Ry. sur, 182 ft to E and 172 ft to S line; W. T. Waggoner 1, S 47, H&TC Ry. sur, 117 ft to W and 150 ft to S line; W. H. Stephens 34, S 83, H&TC Ry. sur. Magnolia Petroleum Co., Dallas, Texas, F. Sumner 50, S 17, H&TC Ry. sur. Petroleum Prod. Co., City Nat. Bank Bldg., Wichita Falls, Texas, S. A. Dill 4, S 84, H&TC Ry. sur, 300 ft N No, 2; S. A. Dill 5, S 84, H&TC Ry. sur, 300 ft E No. 3; S. A. Dill 7, S 84, H&TC Ry. sur, 300 ft E No. 5.

Williamson County — Fritz Fuchs, Taylor, Texas, J. W. Roark 2, T. J. Chambers sur, 150 ft to S and E lines; J. W. Roark 3, T. J. Chambers sur, 150 ft to S and W lines; J. W. Roark 4, T. J. Chambers sur, 150 ft to N and W lines.

Webb County—Rydal Oil Co., Texas Nat. Bank Bldg., San Antonio, Texas, A. M. Bruni 1, B 15, A. de Arriba sur, 150 ft to N and E lines.

Young County — Texas Co., Wichita Falls, Texas, L. J. Kilcrease 1, 1809 TE&L sur, 150 ft to S and E lines. Texas Unity Oil Co., Magnolia Bldg., Dallas, Texas, J. Hausler 9, J. Poitevent sur, 300 ft NE No. 8; J. Hausler 10, J. Poitevent sur, 300 ft NE No. 7. Gulf Production Co., Fort Worth, Texas, E. G. Swain 6, 161 TE&L sur, 470 ft to W and 150 ft to S line. Whitehead & Maxwell, Graham, Texas, Perkins 2, S 11, TE&L sur, 250 ft to S and W lines. Clark, Harbin & Baldridge, Wichita Falls, Texas, Fee 2, S 162, TE&L sur, 300 ft E No. 1. Roamer Oil Co., Kahn Bldg., Wichita Falls, Texas, G. W. Dunnigan 2, 170 TE&L sur, 150 ft to S and E lines. F. H. E. Oil Co., Staley Bldg., Wichita Falls, Texas, S. Groves 4, S 161 TE&L sur, 50 ft E No. 2. Phillips Petroleum Co., Bartlesville, Okla., G. C. Thedford 1, S 110, S. B. Burnett sur.

Speed
Safety
Strength

Rod in place in Elevator

Neilson Safety Sucker Rod Elevator

It's speedy, safe and powerful . . . works either side up, giving two wearing surfaces. No screws to work loose or break . . . no weight on latch. It is real accident insurance on your job.

Neilson Safety Hook

Hook locked. Showing Construction.

Positive in action . . . elevator bail can't come out regardless of position of hook. Made of steel and built for strength and speed.

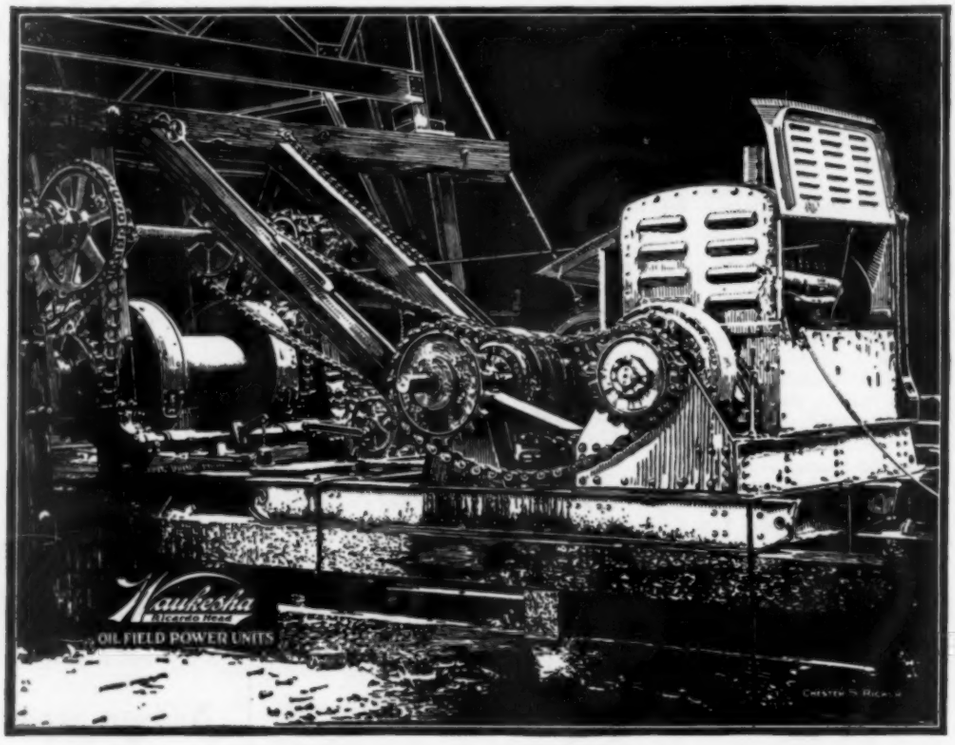
"The Green Top Line."

At Your Supply Store

Cunningham Co.

212 So. Norfolk, Tulsa, Okla.

100 *H. P. Waukesha Oil Field Power Unit Driving Heavy Rotary*



What Red-Orange is to WAUKESHA

What "yellow" is to taxicabs—and what "gold" is to money—"red-orange" is to Waukesha Oil Field Power Units. It symbolizes the highest standard. All through the oil fields, this already famous Waukesha color has become a symbol of reliable service, portability, and economical power.

There is a Waukesha Oil Field Power Unit Book which describes these units thoroughly and a copy will be mailed you gladly on receipt of your request.

WAUKESHA MOTOR COMPANY

Waukesha, Wisconsin

New York City	Hartford	Kansas City	Denver	Tulsa	Houston
Aeolian Building	*K. B. Noble Co.*	*V. L. Phillips Co.*	*Western Equip. Co.*	*C. F. Camp Co.*	*Portable Rotary Rig Co.*

Exclusive Builders of Heavy Duty Gasoline Engines for Nearly Twenty Years

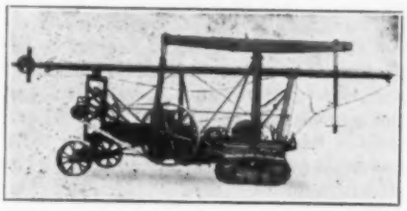
NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS

Clark All-Steel Drilling Machine Announced

An all-steel drilling machine has been added to the products of the Clark Machine Company, Wichita Falls, Texas.

Special engineering features have been incorporated into this machine according to its manufacturers.

The heavy casting drum is mounted on the axle of the apron track and the drilling drum is mounted on top of



the heavy eight-inch I beam frame and near the mast, which gives a direct line pull down on the mast.

The Clark Drilling Machine is equipped with a special high speed bailing drum and also an auxiliary drum for carrying the drilling line while the drilling drums in use for pulling rods and tubing.

The mast is of all-steel telescoping type and when fully extended is 58 feet high, providing ample height for pulling rods and tubing in double. The mast is raised, lowered, telescoped and extended by power and is simple in operation.

More details can be obtained from the Clark Machine Company, Wichita Falls, Texas.

Boiler Compound for Oil Field Boilers

A boiler compound being introduced into Texas by the Southern Chemical Manufacturing Company, is recommended by that company for use in oil field boilers.

This compound, it is claimed, will disintegrate and prevent boiler scale formation, corrosion, pitting, and foaming in boilers, gas and oil engines and throughout water circulating systems.

"Nonedax," as the compound is called, is a non-acid preparation, free from soda ash, lime and any form of free alkali. Chemicals composing the compound are positive in action and convert the lime salts and other scale forming ingredients into phosphates that do not harden, and neutralize carbon acid and sulphuric acid released by decomposition.

The compound may be supplied directly to the boiler by dissolving in warm water and feeding through the suction pump or injector, or after being dissolved, it can be placed into a feed tank or barrel connected with the suction pipe. A safe and convenient method to equalize the distribution is to dissolve the proper amount into a barrel or tank and regulate a steady flow by a valve into feed tank or suction pipe.

It is claimed by the manufacturers that "Nonedax" has the following advantages:

It will prevent the formation of scale; it will dissolve scale already formed; it will not pass over with steam; it will not impart an off-color, taste or odor to steam or condensate; it will neutralize all acid present in water; it will not foam; it will not injure metal or packing; it will not prevent accumulation of oil in boilers; will readily dissolve grease and dirt; will cleanse and disinfect wherever used.

Further information can be obtained from the Southern Chemical Manufacturing Company, 5 N. Cheyenne, Tulsa, Oklahoma, or P. O. Box 1573, Fort Worth, Texas.

Bulletin for Boiler Men

The Andrews-Bradshaw Company, 530 Fourth Ave., Pittsburgh, Pennsylvania, is distributing a bulletin called "The Physical Side of Concentration in Boilers." This paper was read by Roger W. Andrews before the National Electric Light Association, and has been reprinted from "Engineer and Engineering."

The following extract is taken from the paper: "Differentiation is made between the chemical causes, relations, and effects of boiler concentrations, and the physical ones, because the chemical end is the one most commonly understood. Chemical reactions in feed water treatment are pretty well standardized, and treating plants, settling and reaction tanks, are no longer subject to radical changes in principle of design and operation.

"But what of the results of those chemical treatments and reactions after the feed water has reached the boilers? Does even the most theoretically perfect feed water treatment accomplish all that should be accomplished? Also, how is the answer to these two questions changed by varying boiler blowdown, and in what degree when evaporators are used?"

The bulletin discusses the points mentioned in the preface.

Copies will be mailed to anyone requesting them from the company.

Bessemer Engine Folder

The Bessemer Gas Engine Company, Grove City, Pennsylvania, has recently published an attractive folder showing the company's products. These include oil field engines, drilling engines, commercial gas engines, compressors, vacuum pumps and Diesel engines.

Copies of the folder will be mailed upon request to the company.

Rathbun Company Catalog

The Rathbun Company, Houston and El Paso, Texas, announces a new catalog giving details on all products of this company. The products include industrial paints and roof coatings, boiler and engine room supplies, asbestos packings and gaskets, furnace refractories and cements

Copies of the catalog will be mailed upon request to the company, either at Houston or El Paso. The Houston address is 2911 Rusk Ave., and the El Paso address is 212-14 W. Overland St.

Portable Power Pipe Cutter for Shops

An addition to its line of pipe cutters is announced by the Borden Company, Warren, Ohio.

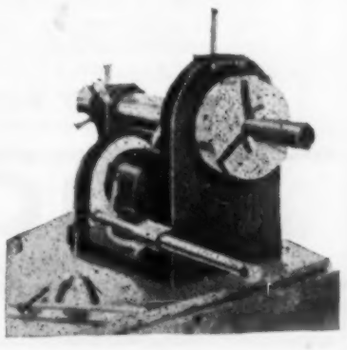
This new cutter is being sold as No. 44 Beaver Power Drive Pipe Cutter.

The No. 44 is said to have several distinct advantages: it is portable, is simple in construction, is equipped with a motor of ample size, is built of the best materials, including cut gears running in oil, and it cuts pipe, threads pipe and makes up fittings. It uses any and all kinds of hand tools.

The drive can be operated from an ordinary lamp socket and will work splendidly.

This size cutter was designed to cut and thread one-fourth to two-inch pipe. When used in connection with the Universal shaft, manufactured by the Borden Company, it operates geared die stocks satisfactorily.

The Beaver power drive uses any



ENGINEERS & CONTRACTORS IN NATURAL GAS AND OIL

Capital invested in a Hope-conducted construction operation reaches the stage of active earning in the shortest possible time.

The explanation is simple. There are none of the usual "preliminaries" where the Hope organization has the job in hand—none of the delays and mistakes inevitable where specialized experience is lacking.

Hope Service works like a finely adjusted, well oiled, high speed machine—producing results in the least time at the least cost.

HOPE SERVICE

Engineering counsel, design, construction and contracting—in pipe lines for oil and gas, oil pumping stations, gas compressing and boosting plants, gasoline recovery systems, city and inter-city gas mains.

UNIT RESPONSIBILITY

H-E-13

ENGINEERS CONTRACTORS

HOPE Engineering & Supply COMPANY

DESIGNERS MANUFACTURERS

MT. VERNON, OHIO, U. S. A.

type or kind of die stock or pipe cutter.

The drive is equipped with a one-half horse power heavy duty 110-220 volt, A. C. 60 cycle single phase motor.

Additional information and literature will be mailed to anyone upon request to The Borden Company, Warren, Ohio.

Standard of Indiana to Enlarge Chicago Home

Chicago, Ill. — Announcement has just been made by the chairman of the board of the Standard Oil Company of Indiana, that this company will enlarge its present building at 910 S. Michigan Avenue, adding seven more stories, making the building when completed, 19 stories high.

The facade of the old building is Italian Renaissance style. Exterior finish of the first three stories is Vermont polished granite and terra cotta, all the stories above these of brick and terra cotta, harmonize in color with the gray granite and terra cotta of the stories below.

The additional stories will be continued in the same manner to the 16th floor, the next three floors above resting on a horizontal terra cotta sill course, will have a vertical three story brick pier and terra cotta trim treatment with ornamental terra cotta recessed by window spandrels.

A rich ornamental terra cotta cornice frieze and panel motif in the Italian Renaissance will mark the top story, reserved for the executive offices.

Six additional new high speed express elevators will be installed in the building and many other improvements and alterations will be made.

Refiners Ask Adjustment Of Refined Oil Rates

Washington, D. C.—New "reasonable and non-predjudicial" rates on gasoline and other pertoleum products now taking the same rates, in carloads, from Missouri, Kansas, Oklahoma, Arkansas, Louisiana and Texas to destinations in western trunk line territory, Illinois, Indiana and the northern peninsula of Michigan, should be ordered by the Interstate Commerce Commission, it is declared in a tentative report made by the examiner who conducted the investigation into mid-continent oil rates, just filed with the commission. The examiner also recommends basis of maximum reasonable rates on fuel oil and other low-grade petroleum products taking the same rates, in carloads, and disapproves changes proposed by the carriers in the oil-rate groups of the Mid-Continent field on traffic to and beyond Kansas City and St. Louis.

The investigation resulted from complaints filed by refinery operators in Missouri, Kansas, Oklahoma and Texas, who were joined in the proceedings by operators and shippers throughout additional territory. They claimed that the rates were unreasonable and unduly prejudicial in comparison with relatively lower rates from more southern points.

LETTERS OF Paul Peebles P.S.G.

Shreveport, Louisiana,
August 31, 1925.

Paul Peebles, Esq., P. S. G.
Houston, Texas.

Dear Paul:

Recalling that the success of the 1923 convention of the American Association of Petroleum Geologists, held in Shreveport, was due in large measure to your presence as a delegate, I have been commissioned, on behalf of the veterans of the Caddo, Bull Bayou, Homer, El Dorado and Smackover booms, to extend to you a cordial invitation to participate in a reunion and special celebration to be held on Oil & Gas Industry Day, Louisiana State Fair, at Shreveport, October 31, 1925.

On that day there will occur in Shreveport a mighty, mastadonic, majestic marshalling of the forces who find and furnish that marvelous fluid which makes possible the movement of the motors of commerce and pulls the purling automotive engines along the paths of pleasure—a gathering of guardians of gigantic gushers—he-men who fight and tame the formidable forces of nature in order that humanity may move to the musical measure of the motor. Everybody who is in any way connected with the production, refining and marketing of petroleum and natural gas; every man, woman and child who is connected in any way, directly or collaterally, with the industry, will participate in this parade, attesting the power and importance of petroleum.

There will be a superb showing of the brawn and the beauty, the strength and the weakness, the age and the youth of those who sustain and are sustained by the oil and gas industry. There will be lots of music, gobs of good-fellowship, pretty floats, good-looking girls, and some surprises. The Standard has promised two bands, the Mex-Pete one band, the Magnolia one band, and the Louisiana one band, and the committee feels that we will have a minimum of ten marching bands.

Messrs. C. K. Clarke, N. C. McGowan, Clyde M. Bennett, R. O. Roy and R. W. Howe, are among the master minds behind the movement; and nothing but the promise of your attendance and participation remains to insure the success of this monster celebration.

One entire section of the parade is to be reserved for the distinguished members of the profession which you adorn; and we feel that geology will be inadequately represented if you are not here to march with Bill Spooner, John Snyder, Si Stathers, Walter Hopper, and Joseph Poyer Deyo Hull.

Yours very truly,

Jos. B. Elam,
Secretary, Louisiana-Arkansas Division
Mid-Continent Oil & Gas Ass'n.

P. S.—Bring Cleo along, as the wives, sweethearts, sisters, and families of all the boys are to attend.

---

mr jos. b. elam, sec. etceterry,
shreesport, la.
deer joe

I am mutch oblige 2 yu for yore kind invertashun 2 cum 2 shreesport espeshul on account of I hav bin itchin for a chanct for a excuse 2 cum up there whitch I cood explane satisfactery 2 mi sweety, cleo, & also 2 the widder where I bordes. yu sea it is like this, joe, it is a sweet little lady in shreesport whitch has bin ritin me letters & wants me 2 cum 2 sea her whitch I aint did on account of the dellikasy of explainin why I am goin up there 2 these wimmin whitch I menshun. yu no how it is joe, espeshul when a feller is in a bizness like mi perfession whitch meens that I can go whereever I Want 2, but the kind of a guy I am I am always tellin them esackly what I go for & do not tell them no lies. well if I was 2 tell them that I was goin 2 shreesport 2 sea a laddy, well yu no what I wood be up agenst.

but now yu hav cum to my reskew whitch makes it all alrite. I gess yu do not ask for no registerashun pappers on wives & sweetharts 2 proov how old they are when we line up for the peerade, so if I show up there with one whitch is a bran new sweety well I gess it will be alrite with yu & yore committy. so yu can proseed with the assurants that I will be there, subjeck to fire, strikes & acks of providence whitch I aint got no control over, & also the whims of wimmin. ennyway that is enuff assurents that yu can bank on the sucksess of yore stunt at the fare & if yu want 2 yu can go ahed & take out insurents that it will be a sucksess bi gettin a policy that I will be there just the same as yu can take out rain insurents.

but I gess under the circumstantses that it will be alrite for me 2 leev cleo at home this time, ennyway on account of I wonder wood yu take a sanwich with yu if yu was invited 2 a banket? she is gittin kinder jeelus about me sinct I went on mi vakashun & did not go 2 sea her, but I can explane this time 2 her on account of it is a quarantine on gittin cows out of goose creek rite now & espeshul 2 loosiana, & on account of her size I can explane 2 her that she mite be imbarressed bi the inspecters whitch stops jitneys & asts if it is enny cows in the cars, but yu can just leev that part of it 2 me.

another thing, joe, I want yu 2 hav the most influentests member of yore committy 2 make sure arrangements with the police that I will not hav 2

Oil Men: What is your "Oil Reserve" in the ground? Have you comprehensive operating records? Can you honestly claim to have an operating program? Can you adequately handle all these elements in your Income Tax problems?

Chapter I of this book helps you to think correctly on these topics. 332 pages, flexible leather, pocket size, $3.00 postpaid.

Send check to

The Gulf Publishing Company
P. O. Box 1307 Houston, Texas

GUARANTEED
USED PIPE
AND **CASING**

Priced at savings of one-third or more—and guaranteed to give service equal to new!

PIPE in all sizes, rigidly inspected and fitted with new threads and couplings. 1" to 16", new and used—all guaranteed in first class order.

CASING in sizes 5 3/16" to 15¼", standard and DBX. Warranted equal to new in grade and workmanship of threads, collars and protectors.

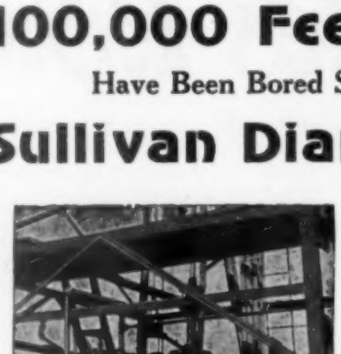
Ready for shipment now! Get our prices.

JOS. GREENSPON'S SONS
IRON & STEEL CO.
St. Louis, Mo. Tulsa, Okla.
Breckenridge, Texas.

100,000 Feet in Mexico

Have Been Bored Successfully With

Sullivan Diamond Drills



Why is the Diamond Core Drill used repeatedly in Mexico for production drilling when standard and rotary rigs stand idle?

Because Sullivan Core Drills can:

Drill the Shales

Drill the Limerock

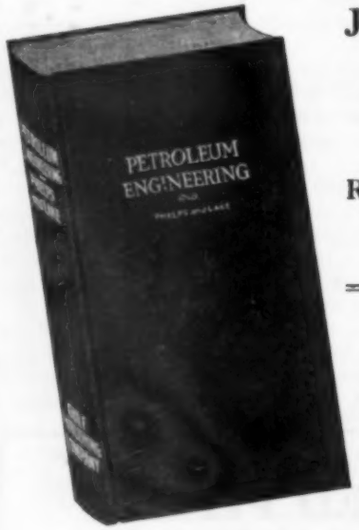
Control High Pressure, and Produce a Continuous Core Record.

The Sullivan "P-2" with pressure control features is the rig that has done most of the Mexico diamond drilling. Described in new Catalog No. 4280.

SULLIVAN MACHINERY CO.

122 So. Michigan Ave., Chicago, Illinois

Geo. E. Failing, Tulsa and Garber, Okla., State Agent.



JUST OFF THE PRESS

PETROLEUM ENGINEERING

—By—

ROBERT WILLIAM PHELPS *and* FRANCIS WILBUR LAKE,

Petroleum Engineers

There has been a long felt want for a petroleum engineering handbook. This book is essentially in two parts, i. e., text and tables. The text deals with the theories of geology and petroleum geology in their application to the exploration, development and production of petroleum. Operating technology, appraisal and economics are also covered.

Half of the book is devoted to schedules for reports; tables covering chemical elements, petroleum compounds, geology, rocks, rock minerals, properties of petroleum, porosity, saturation, extraction percents, pipes and casing, tanks (capacities), conversion factors, and mathematical data such as algebra, trigonometry, and six place logs. Twenty-seven useful alignment charts for rapid computations of oil field problems.

561 pages, fabrikoid, postpaid $5.00

— Lest you forget, send check today to —

THE GULF PUBLISHING COMPANY

P. O. BOX 1307 HOUSTON, TEXAS

stay in jale all threw the fair like I done that time when I cum up there for the geeology meetin. yu can tell them that bein in jale aint no novelty 2 me & the citty cant git no noteriety bi puttin me in like it can bi havin me mixin in the preceedings. it wood also be a good ideer if yu was 2 make brad hern & roy laegh & bill spooner a speshul paul peebles committy for the peerade & geo baird a speshul committy 2 pervide a speshul car for me 2 ride in with this swety whitch I will hav with me. I will hav 2 sea her first bfore I deside whether I wood rether have a open car or a closed car & if I wood rether drive it miself or hav sum boddy for a chuffer for me. mabe I will want 2 be givin all of mi attenshun 2 the girl & mabe I wood just as soon drive—yu can not nevver tell till yu hav looked them over & felt them out, eh joe.

well joe that is all set so yu go ahed & keep me advised on how arrangements is perseeding & also how the market is up yore way on the 1 lickwid whitch has got moar dinamitic potentsy than has the grate objeck of the efferts of them whitch gathers in the hotel lobbies of shreesport & drills prospective feelds all over loosiana & arkansaw. if they made evry strike they werk out for a sincht the oil market now wood be in 1 hell of a fix.

well so long, joe, see yu later.

yores trewly,

paul peebles, P. S. G., P. G.
R. F. D., O. T. E., Etc.

Whittington Pool Extension Holds Panhandle Attention

Amarillo, Texas.—The Whittington pool in the eastern part of the Texas Panhandle district has been given an extension of one and two-thirds miles to the northwest by the semi-wildcat test of J. J. Rook and associates on the H. C. Phillips land, which is reported making two million cubic feet of wet gas and spraying 30 barrels of 36½ gravity oil after drilling three feet of sandy lime pay to a total depth of 2293 feet. This test is located in the center of the SW NW SE of section 41, block 24, and has since been shut down pending the erection of storage. The Whittington pool is located on the North Fork of Red River in Wheeler County, and is northwest of the town of Shamrock.

Exploration work carried on since the discovery of oil in the pool by J. O. Whittington last January has been somewhat disappointing, and only small oil producers have been obtained to date. The discovery well is credited with having flowed 1100 barrels of 36.7 gravity oil during the first 24 hours after drilling sandy lime pay at 2189-2220 feet, but nearby offsets failed to make more than fair sized pumpers. The discovery well and adjoining leases were sold to the Mid-West Exploration Company last June, but the original hole was later junked and

abandoned. Mid-West has two pumpers making about 100 barrels daily, while the Texhoma Oil & Refining Company has a 58 barrel pumper on the Jackson land. The Three-N Oil Company completed a small pumper offsetting the oil discovery, but no attempt is being made to market the production. Four failures have been drilled in recent months to the east and southeast of the oil area, while one failure has been made to the northwest of the pool with solid granite at 2484 feet.

Daily production of five counties in the Texas Panhandle has exceeded 4200 barrels during the past two weeks, with Carson County maintaining its lead with 2400 barrels, and Hutchinson County second with 1650 barrels. Wheeler County is producing 158 barrels, while two pumpers in Gray County contribute 52 and 12 barrels, respectively. The Amarillo Oil Company lone producer in Potter County averaged 48 barrels daily last week.

The Marland Oil Company of Texas has set up a record for steady production with its first completion on the Burnett ranch in Carson County, as this well has been averaging 600 barrels or more daily since its completion last April with an initial flow of 850 barrels with aid of swab from regular pay at 3000-25 and 3060-80 feet. The production is upheld by agitating with cable tools during the day, and letting the oil flow natural at night. This single producer has kept Marland at the head of producing companies in the Panhandle district almost continually since its completion. Marland's second test on the same lease failed to show for more than an average sized pumper.

Caddo Deep Gas Production Extended Mile by Big Well

Shreveport, La.—The proven area of the deep sand gas production at Pine Island was extended about one mile northeast from the Dixie Oil Company's discovery well by the completion last week of the Ohio Oil Company's E. K. Smith No. 17, in section 12-21-15, Caddo Parish, which was finished as a sixty million cubic foot gasser at a total depth of 3697 feet. The well was closed in as soon as it had cleaned itself; but observers estimate that it is fully as big a well as the discovery well which has attracted so much attention.

The Dixie Oil Company's well, referred to above as the discovery well of the deep gas sand, has been producing gas and gasoline since December of last year; and no appreciable decline in volume has as yet occurred. It has a working pressure of around 1100 pounds at the well; and its gas, after passing through chokes, regulators, and snubber tanks, enters the Arkansas Natural Gas Company's line to Little Rock and intermediate points at a pressure of around 400 pounds. Gasoline to the extent of around 1500 gallons per day is recovered from the snubber tanks.

NATIONAL Drill Pipe
NATIONAL Rotary Pipe
NATIONAL California Casing
NATIONAL Tubing
NATIONAL Line Pipe

WALWORTH PIPE FITTINGS
WALWORTH VALVES, ETC.
AMERICAN WIRE LINES

Big stock of Oil Field Supplies carried in our warehouses for your convenience. Send us your orders or write today for prices and information.

We Ship Quick"

PEDEN IRON & STEEL CO.

Houston San Antonio Mexia Shreveport

Made Right, Tight

MALONEY Tanks are made right in the beginning, and they stay tight.

No other tank possesses all of the following advantages:

1. Construction of Rust-resisting Keystone Copper Steel.
2. Patented offset construction at seams and joints, insuring exact, gas-tight fit where sheets overlap.
3. Clean-out opening flush with bottom.
4. Gas-tight thief hatches.
5. Reinforced deck and seam construction.
6. Vacuum pressure valves.
7. Positive elimination of evaporation.

MALONEYS offer maximum protection for your crude.

"Alone in Quality"

MADE OF KEYSTONE COPPER STEEL

MALONEY TANK MFG. CO.
Tulsa, Oklahoma

MADE OF KEYSTONE COPPER STEEL

We now furnish "Buck" type vacuum-pressure valves and vacuum breakers

12 to 3,000 Bbls. Capacity

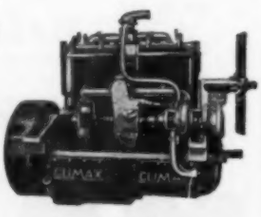
Prompt, Dependable Export Service

MALONEY

Now Ready!
New Tong Catalog
—describing all types of Wilson Tongs from 2″ to 20″
Ask for a copy
Wilson
Oil Tools
Corporation
2301 E. Vernon
LOS ANGELES, CALIF.

OIL FIELD LUMBER
SPECIALIZING IN OIL OPERATORS NEEDS
96 ft. to 122 ft. DERRICKS
STANDARD RIGS
FOR BOTH
ROTARY and CABLE TOOL Drilling
STEEL DERRICK FOUNDATIONS
TANK COVERS FOR STEEL AND EARTHEN STORAGE
ENGINE FOUNDATIONS
LARGE TIMBERS IN PINE, FIR AND OAK
Stocks in HOUSTON, GOOSE CREEK, SOUTH LIBERTY (In the Field) and at SAWMILLS
Special Quick Service in Texas and Oklahoma
Robertson-MacDonald Lumber Co.
General Offices: 215 Humble Bldg., Houston, Texas
We will furnish on request Specifications, compiled by high grade, experienced rig builders, of derricks, standard rigs and oil field woodwork construction in general use in the various producing fields.

DRIVE Your Rotaries, Mud Hogs, Powers, Short Pipeline Pumps, Lighting Generators, Electric Drilling and Pumping Motors, also Cable Drilling Machines, with
CLIMAX *Trade Mark Reg. U. S. Pat. Off.*
"Trustworthy" Engines
—for gasoline power. 15% less with natural gas.
Lightest Heavy-Duty Engine made—Price is Right.
CLIMAX ENGINEERING COMPANY
51 W. 18th Ave., Clinton, Iowa.
Mid-Continent Office: Wells Hotel Tulsa, Okla.



Built in
50-55 H.P. Size
70-80 H.P. Size
105-120 H. P. Size

It has been reported that the Dixie Company is to construct an absorption gasoline plant to handle the production from this remarkable well.

Urania

Zeigen et al's Urania Lumber Company No. 3, in section 19-10-2e, La Salle Parish, gives promise of commercial production, although the test has not yet been concluded. It was bailed last week in a broken sand from 1514 to 1557 feet, and it made a few brief heads of oil before it was closed in.

Bill Rowe's well in the same section, which has been on the beam for nearly three weeks now, is pumping an average of 75 barrels of fluid per day, of which 95 per cent. is oil and 5 per cent. is salt water.

Announcement was made last week by H. W. Bell, Engineer, Minerals Division, Department of Conservation, that, under authority from Dr. V. K. Irion, newly-appointed Conservation Commissioner, the regulation requiring the use of at least 450 feet of surface casing in the Cotton Valley Field has been amended so as to require only 300 feet in future.

El Dorado Third Sand Wells Do Not Overcome Field Loss

El Dorado, Ark.—The development of the Blossom sand at Smackover has, so far, proven insufficient to offset the decline from the Nacatoch and Graves sands. Seventy-five wells have been completed in the third and deepest producing formation; but fifteen of them are dead and the combined production from the remaining sixty, according to latest figures available, averages only about 14,000 barrels of oil per day, or an average of 233 barrels per well per day. This compares with an average of 260 barrels per well per day from 500 producing wells which are yielding a total of approximately 130,000 barrels per day from the Graves sand. The Nacatoch or shallow sand, which has 1317 producing wells, has settled to around 42,000 barrels per day. Fifteen of the Blossom sand wells have been put on the beam. Six hundred and forty wells have been compelted in the Graves sand, but 140 of them are dead and only 500 are in operation, including 425 pumpers and 75 flowing wells.

The production of light oil in the Louann District has fallen to less than 26,000 barrels per day.

Lack of space forbids the enumeration of all the deep tests now in progress at Smackover; but a dozen or more operators are engaged in prospecting throughout the field for oil production below the Blossom sand at 2600 feet. One or two gas wells have been brought in from a depth of around 2700 feet; and Arkansas operators are very hopeful of oil production from the Woodbine or deeper formations.

A burst of activity in the El Dorado East Field, where Stock et al recently found oil production at a depth of 2869 feet, indicates that the development of the

newly-found deep sand is to be pushed with the same aggressiveness that characterized the Graves sand boom at Smackover. A dozen or more wells are to be drilled at once in the immediate vicinity of the discovery well. The East Field is now producing around 2300 barrels of heavy oil per day from the Nacatoch sand at an average depth of 2200 feet.

Coatsville Boiler Works Opens Mid-Continent Office

Dallas, Texas.—The Coatsville Boiler Works of Coatsville, Pennsylvania, one of the oldest and best known boiler plants in the United States, has opened a branch office in the Mid-Continent field, located at 604 American Exchange National Bank Building, Dallas, Texas.

The new office has been established for the purpose of distributing the company's new type oil field boiler known as the Taylor Boiler, which has had a popular reception in all oil fields of the country. R. D. Burnham will manage the new office.

The Dallas office will also handle all other business of the company.

Other products of the company include a regular line of steel tanks and power boilers of every design.

Red River Land Leases Awarded By Government

Washington, D. C.—Final adjustment and determination of equitable claims for oil leases and permits, including several million dollars of impounded funds, in the Red River oil field of Oklahoma has been reached by the Interior Department. Leases and permits are awarded to but 18 of the 64 applicants, covering a total of 730 acres. No equitable claims were found to exist on the other leases, covering 531 acres, and that land will be held for future disposition by the Government. The successful contenders for leases will share in the division of $2,141,898, representing impounded funds from oil production during the Federal receivership and thereafter. A total of $405,593 secured from production on the remainder of the area will go into the federal treasury.

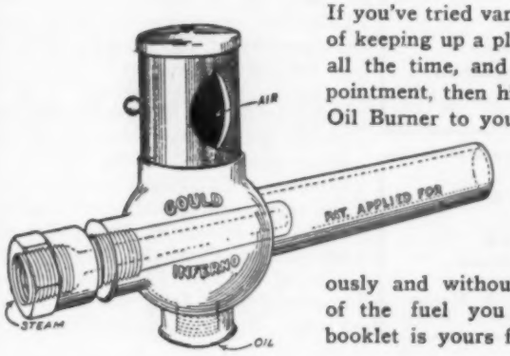
The leases to be awarded by the department will be ready for execution in the near future, it is announced, and successful lessees will be able to take over their lands on December 1, next, at which time, also, payment of the impounded funds will begin.

The successful lessees and the shares they will receive from the impounded funds are as follows:

Colorado: Ben Bergerman, trustee, Pueblo, lease for 13.5 acres and permit for 19.5 acres; Pacific Wyoming Oil Company, Denver, lease for 67 acres on first claim, and lease for 14.4 acres and approximately $11,654, on second claim; Arthur S. Beymer, et al and National Exploration Company, Denver, permit for 10.2 acres.

Indiana: Burke Divide Oil Company,

Hitch a Gould "Inferno" Burner to Your Boiler



If you've tried various and sundry means of keeping up a plentiful supply of steam all the time, and have met with disappointment, then hitch a Gould "Inferno" Oil Burner to your boiler and watch its capacity step up.

The Gould "Inferno" works instantly and continuously and without variation, regardless of the fuel you use. An interesting booklet is yours for the asking.

Write or Wire for Bulletin No. 2

GOULD BURNER COMPANY
Main Office: Shreveport, La.

BUY USED PIPE
and Save the Difference

100,000 ft. 2-inch used line pipe.
20,000 ft. 3-inch used line pipe.
5,000 ft. 4-inch used line pipe.
5,000 ft. 6-inch used line pipe.
15,000 ft. 8-inch used line pipe.

3,800 ft 6¼-inch 26 pound used casing.

We buy abandoned pipe lines and oil wells. If you have any to sell, communicate with us before you dispose of them.

Keystone Pipe & Supply Company
Eastern Headquarters: Butler, Penna.
Western Headquarters: Fort Worth, Texas, 315 W. T. Waggoner Bldg.
BRANCH STORES:
Wichita Falls, Holliday, Vernon, Breckenridge, Texas

WATER SUPPLY PUMPS

NOVO TYPE W

Duplex Pumping Outfits
Deliver water long distances.

Carried in stock
Houston

R. B. EVERETT & CO.
Phone Preston 1437 - 7570

Consolidated, Terre Haute, permit and lease for 227.1 acres, and approximately $693,502 from oil produced from 13 wells.

Kansas: Lone Star Refining Company, Kansas City, lease for 10.9 acres and approximately $228,624 from two wells.

Minnesota: Thomas A. Gall, et al, Minneapolis, lease for 4.6 acres; J. M. Wakefield, et al, Minneapolis, lease for 29.7 acres.

Ohio: W. F. Corts Drilling Company, Columbus, lease for 6.7 acres and approximately $49,258 from one well drilled by the Federal Receiver.

Oklahoma: A. E. Pearson, et al, Oklahoma, lease for 16.6 acres and approximately $145,657 from two wells, one of which was drilled by the receiver; Tom Testerman, Oklahoma, lease for one acre and approximately $101,938 from on well; Melish Consolidated Placer Oil Mining Association, Oklahoma, prospecting permit and lease for 222 acres and approximately $40,857 from one well; Mutual Placer Mining Association, Frederick (George W. Bayers, Denver, Colo.), permit for 10.3 acres.

Texas: General Oil Company, Houston, lease for 13.8 acres and approximately $318,542 from two wells, one of which was drilled by the receiver; Buckeye Petroleum Company, Wichita Falls, lease for six acres and approximately $22,252 from one well; Southwest Petroleum Company, Wichita Falls, lease for 4.3 acres and approximately $85,837 from two wells; Delta Oil Company, Wichita Falls, lease for 13 acres and approximately $45,288 from two wells, one of which was drilled by the receiver; James M. Patterson, et al, Wichita Falls, lease for forty acres.

TEXAS OIL MAPS
County and District
Catalog on Application
HEYDRICK MAPPING COMPANY
Wichita Falls, Texas

PATENTS
Patents Obtained, Trade Marks, Patent Causes
JESSE R. STONE
Formerly Assistant Examiner
United States Patent Office
Andrews, Streetman, Logue & Mobley
12th fl. Union N. Bk., Houston, Texas

Pure Oil Fourth in Texas; Correcting Error in Report

Through error in compiling the names of the leading companies of Texas in production of crude for the second quarter of this year the Pure Oil Company was omitted from the list of the ten leading companies. This method is being used by The OIL WEEKLY to make a correction of the error and place the Pure Oil Company in its respective place among the other leading companies operating in Texas.

A total of 2,567,842 barrels was produced during the second quarter of the year by the Pure Oil Company with a value of $5,153,077. This figure places the Pure Oil Company fourth among the ten leading companies of Texas, which is the same place it held for the first quarter of the year. It was in the last quarter of 1924 that the Pure attained this place with an increase in production sufficient to cause it to change places with the United North & South Company.

The record of the Pure Oil Company for the second quarter of this year shows an unusually large increase, the figures having been raised from 1,894,694 barrels for the first quarter to 2,567,842 barrels for the second quarter, or a gain of 673,238 barrels.

KOBE
HEAT-TREATED
SCREEN CASING,

KOBE Heat-treated screen casing is in a class by itself. The process of forming a slot and at the same time heat treating the metal around the slot is fundamentally new and a radical departure from the usual methods of screen casing manufacture.

In the KOBE process, absolute perfect adjustment of the machine is determined; also the speed of heating and quenching, as well as the initial, maximum and final temperatures to which the steel is subjected. When these operations are positively determined, they are as positively controlled and maintained, mechanically and automatically, eliminating all possibility of variation. As a result, the metal adjacent to the slot is greatly strengthened, the grain is made closer, and the surfaces are made harder, giving a screen casing with remarkable strength and resistance to sand abrasion.

There is an essential difference also in the form of the KOBE slot. Its length on the inside of the casing is the same as on the outside. Its sides are plane surfaces which diverge toward the inside of the pipe with any desired angle. Its ends are rounded and its edges are free from burrs. Therefore, in short, it is an ideal form of slot, with only sufficient metal removed from the pipe to give the desired effective opening, plus the desired amount of undercut.

Results obtained in service prove beyond expectations that the KOBE form of slot is superior, and that the KOBE Heat-Treatment is an important advance toward the ultimate in screen casing.

KOBE, Incorporated
1917 East 51st Street, Los Angeles, California
Delaware 7450

"CUT OIL"
is a problem in
CHEMISTRY

An "emulsion" represents a condition of a liquid which can be fully, scientifically and economically corrected by use of the chemical process. Use TRET-O-LITE process when you have cut oil and tank bottoms that require treating.

Wm. S. Barnickel & Co.
ST. LOUIS, MO.

Tret-O-lite
Reg. U. S. Pat. Off.

When Buying Equipment—

NO OTHER DUTY in the Oil Industry carries so great a responsibility as that of selecting and buying equipment. Capable men and good properties spell nothing when equipt with inadequate tools or inferior mechanical material.

So dependent is the Industry upon its equipment that the failure of one small field item may mean the difference between success and failure for the operator. While careful selection in the purchase of lease requirements will do wonders with the profit side of the ledger.

Numerous and continuous changes in field equipment further complicate the task of the purchaser. He must be wide awake and have a varied knowledge, possible only by constant study of all available information.

The Annual Equipment Number of The OIL WEEKLY—October 2nd issue—will have a section devoted to illustrated descriptions of all new and improved field equipment brought out during the past year. A complete condensed catalog form which you will have no trouble in securing all necessary information for your equipment purchases.

Watch for this issue—October 2nd—and see that it is preserved. No buying records will be complete without it.

Manufacturers who have not already furnished information on their new and improved equipment can insure proper representation in this "Buyers' Guide" by writing at once. There is no charge or obligation.

THE OIL WEEKLY

The Ludlow Valve 1925 Catalog

is now ready for distribution and will be mailed FREE on request.

The Ludlow Valve Mfg. Co.
(Established 1866)
FACTORY: TROY, N. Y.
BRANCH OFFICES:
Kansas City, Mo. Chicago, Ill. Boston, Mass. Pittsburgh, Pa.

GEOPHYSICAL EXAMINATION OF OIL PROSPECTS BY PROVEN SCIENTIFIC METHODS

We are prepared to undertake Contracts for the exploration of Oil Deposits (Structures and Salt Domes) by the gravitational, seismic, electrical and magnetic Methods.

NORTH AMERICAN EXPLORATION CO.
First National Bank Bldg.
HOUSTON, TEXAS

J. B. McKAIN
OIL WELL FISHERMAN
Manufacturer
Fishing and Drilling Tools
Parkersburg, W. Va.

PATENTS
Patents Obtained and Trade Marks and Copyrights Registered
428-29-30 Bankers Mortgage Bldg.
HARDWAY & CATHEY
Phone Preston 4790 Houston, Texas

JOHN M. SPELLMAN
PATENTS TRADE-MARKS COPYRIGHTS OBTAINED.
U.S. PATENT LAWYER
ESTABLISHED 25 YEARS - WASHINGTON OFFICE
311 MAGNOLIA BLDG., DALLAS, TEXAS
U.S. SUPREME COURT PRACTICE
INCOME TAX SPECIALIST

Mountain States Posted Price Cut With Mid-Continent

Casper, Wyo.—Following the policy of the larger Mid-Continent purchasers, the Midwest Refining Company, chief purchaser of Salt Creek crude, announced a cut of 40 cents per barrel on all grades of Salt Creek crude, effective August 27. This cut had been expected for several days, due to the wide variety of cuts announced in other fields. This brings the posted price of Salt Creek down to a minimum of $1.23 and a maximum of $1.87, or exactly the same price as posted for Mid-Continent crudes of the same grade. Ordinarily cuts in the Mountain States have been announced on day after the general Mid-Continent decreases, but it was announced on the morning the Prairie posted reductions in Kansas and Oklahoma. This is accounted for by the fact that the differential has been lifted and cuts in the Mid-Continent probably will be the same as those affecting Salt Creek crude. Reductions affecting other fields were not announced, although it is expected that all fields in the district will be affected within the next few days.

The Mosher-Dyke syndicate has sprung a surprise in bringing in a producer from the shale on section 33-40-79 on the outer edge of the Salt Creek field at a depth of 2050 feet. This test is well to the west of the main producing limit of the field and production in the main strata was considered doubtful. The shale pocket was several hundred feet above the sand. Other wells have been drilled on this quarter section but they were completed as small gassers.

The Prairie Oil & Gas Company has completed a good well on section 20-39-78 in the Salt Creek field, production having been found in the third sand at a depth of 2832 feet. The well flowed after the sand had been tapped a few feet. The well actually made 100 barrels in 24 hours before it was completed. The well may be drilled deeper into the sand for greater production. This well is located in the extreme southeastern part of the field and indicates that the third sand may be productive over a still greater area in this region.

The Beneficial Oil Company has encountered good quantities of oil in its test in the La Barge field in southwestern Wyoming. After the well had stood a few hours recently, more than 100 barrels of high gravity oil was bailed from the hole. The test is cased with 10-inch pipe and the oil is coming from a depth of less than 700 feet. Several other tests have found oil in varying quantities in the La Barge field. Ordinarily production is found at very shallow depths.

The Midwest Refining Company has 12 wells now drilling for the Lakota formation in the Salt Creek field. These tests vary from rigging up to drilling at a depth of 3000 feet. Nearly all sections of the field likely to produce from this horizon are included in the deep-drilling program. As the wells are finished they probably will be shut in until the oil is needed for refinery use. Several thou-

The Tropics Ablaze!

PHOTOGRAPHS received from private correspondents indicate that the recent fire in the LaRosa field, Lake Maracaibo, Venezuela, was one of the most spectacular in the history of oil field fires. Scores of Moore derricks were completely enveloped by the flames, the fire raging fiercely for nearly forty hours. Under such a test, the derricks might reasonably have been expected to collapse; but, according to reports received, practically all the Moore derricks survived with very little damage. The performance of the Moore was almost miraculous, the owners and crews freely commenting on this piece of good luck in the midst of disaster. In doing so, they are too modest, for they might more properly pride themselves on their foresight in choosing the Moore, "the derrick that defies disaster."

LEE C. MOORE & CO., Inc.
Pittsburgh, Pa.
Established 1907

CASPER, WYO. Midwest Building
DALLAS, TEXAS Magnolia Building
TULSA, OKLA. Atlas Life Building
SHREVEPORT, LA. Washington Hotel
PARKERSBURG, W. VA. Union Trust Building

MOORE TUBULAR STEEL DERRICKS

"LET'S SEE 'EM PUMP"

"Sorry, but we can't open up the tank without its shutting down the gas engine."

The above was the usual conversation between visitor and owner before the advent of

THE NEW EM VEE SIGHT FEED SEPARATOR

You can see them produce.

No cocks or valves to open or close.

The oil, gas and water are handled automatically.

Something entirely new and a real achievement.

Write for descriptive literature

M & V Tank Company

WICHITA FALLS, TEXAS

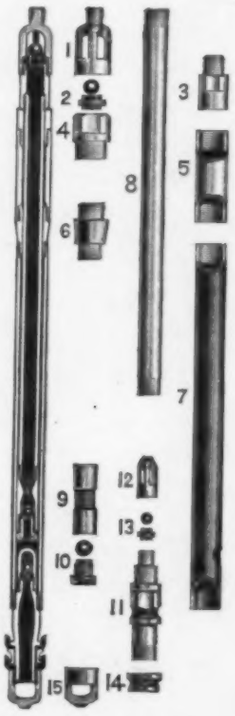
Branches: Vernon, Olney and Nocona, Texas

TIME-TESTED

The Lewis Plunger Liner has received the test of time in every oil field, and has passed the test in every case.

Inserted type—may be pulled out complete and replaced with sucker rods. Made of the best materials, machined with skill and care. Scientifically correct. For use where floating sand cuts cups on regular valves.

Carried in stock by all good dealers



The Charles N. Hough Manufacturing Co.

FRANKLIN, PENNSYLVANIA

Products that cut down your underground overhead

sand barrels of oil are now shut in from this formation.

George Otis Smith, director of the United States Geological Survey, spent two days recently in the Salt Creek field. Dr. Smith came to Casper primarily to attend the Petroleum Division of the American Institute of Mining & Metallurgical Engineers. He was very much impressed with the progress and cooperation shown in the Salt Creek field, where his department takes an active part. A large office is maintained in Casper by the United States Geological Survey.

The Midwest Refining Company encountered oil in considerable quantities in its Powder River well at a depth of 2300 feet. First reports indicated that the well was a commercial producer but subsequent developments proved this erroneous. The oil was coming from shale pockets with a considerable quantity of gas. The test is located on section 35-36-85.

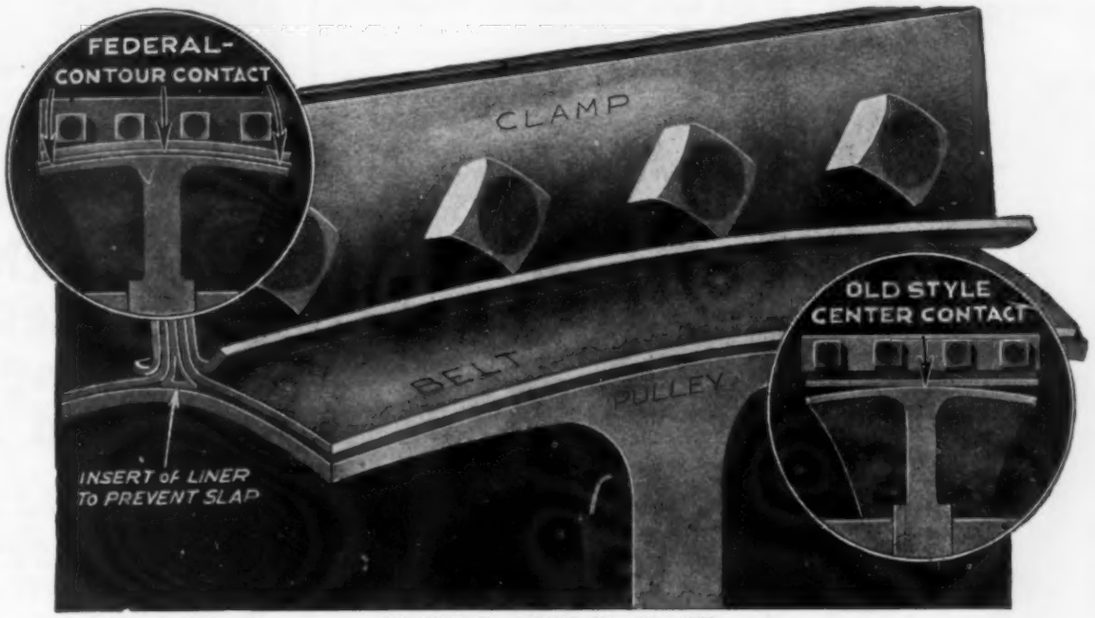
Producers & Refiners Corporation, not satisfied with the production of its No. 8 well in the Hudson field, recently deepened it a few feet with very good results. The well had previously produced only five to seven barrels daily before deepening but immediately afterward produced about 100 barrels daily. The Hudson field is one of the oldest in the State and produces heavy black oil. The company has not announced whether other wells will be deepened.

The Midwest Refining Company has let contracts to several large supply houses for furnishing great quantities of drilling and pumping equipment, principally for use in the Salt Creek field. Derricks, rig irons, casing and sucker rods were the principal items included in the contracts let. The Axelson Machine Company was awarded the contract to furnish half a million feet of sucker rods. Contracts for casing have not been let, it was announced. The Midwest interests control upward of 1000 wells in Wyoming and are by far the largest operators in the Rocky Mountains. The failure of the wells to flow in the Salt Creek field has been largely responsible for the large amounts of pumping equipment purchased.

Drilling activities in Montna, especially in the Kevin-Sunburst field, seem to have increased rather than declined during the past three weeks. Completions continue to run around a dozen each week with new locations and rigs about corresponding to the completions. Several operators with questionable acreage have started tests in different parts of the field. The Big West Oil Company, already a large producer in the field, brought in a 700 barrel producer on section 31-35-1 at a depth of 1445 feet. The Queen City Oil Company, also one of the largest producers in the field completed a 400 barrel producer on the northwest quarter of section 4-34-2 at a depth of 1500 feet.

The Cat Creek field is dominated by the Midwest interests and but very little activity is noted in this district. Many of the smaller operators holding acreage around the edge of the field are drilling tests. The Midnorthern Oil Company, subsidiary of the Midwest Refining Com-

Stop Abusing Your Belt by Using the FEDERAL Belt Clamp!



PATENT No. 1536278, May 5th, 1925.

The molded rubber filler with the soft gum core PREVENTS slapping

The old style, straight bar clamp abuses your belt and shortens its life. The FEDERAL BELT CLAMP prolongs the life and usefulness of your belt by eliminating the "slap" and preventing bootlegging. Remember, it's not the USE—it's the ABUSE of your belt that costs you money.

"The curve on the clamp fits the crown on the pulley" —and PREVENTS bootlegging

Moulded Rubber Filler. Soft Gum Core.
PATENT No. 1543559

AT ALL STORES OF
Continental Supply Company
International Supply Company
Bridgeport Machine Company
Petroleum Supply Company
Bovaird Supply Co.

Federal Belt Clamps are forged of pressed steel, drilled and fitted with 5/8-inch heat-treated steel bolts and lock washers.

FEDERAL SUPPLY COMPANY

Manufacturers of
FEDERAL BELT CLAMPS, *Trapsocket* and "BETTER BITS"

Fort Worth, Texas Mexia, Texas

Say you saw it in The OIL WEEKLY

BACK OFF

That Stuck Pipe With Edwards Reversing Tool

Coupling for drill stem connection rotates to right
Hinged wings when turned to right open and anchor to casing—causing
The lower part to operate to the left, recovering stuck or twisted off pipe and casing

Can be released at will. Will operate with strain on pipe. Has wide range of adjustment. Makes left-handed pipe unnecessary. Successful operations prove statements.

Get H-E Tools

At your supply store, or write, phone, or wire.

HOUSTON ENGINEERS, Inc.
Phone Preston 1927
Night, Taylor 1996
Postoffice Box 276
HOUSTON, TEXAS

Patented—Patents Pending

pany, recently completed a 150 barrel well on the southwest quarter of section 10-15-29.

The Midwest Refining Company's Shaw No. 1 well, recently completed on the Iles dome (Colorado), has been deepened but production was not stimulated to a marked degree. The well came in with an initial production of 575 barrels but has fallen off some from this amount. A pipe line may be built from the field to Moffat dome to connect with the line to Craig.

Skelly Oil Company Announces Promotions

Tulsa, Okla.—A number of promotions in the office personnel of the company has just been announced by H. M. Stalcup of Tulsa, executive vice president of the Skelly Oil Company. The promotions were announced following a meeting here last week of the company's superintendents, chief clerks and other department heads in Tulsa and from Arkansas, Texas, Oklahoma and Kansas.

V. L. Reed, assistant superintendent, has been promoted to division superintendent of the central and northern areas of the company's operations in Oklahoma. F. P. Graham, now district superintendent in Kansas, has been made division superintendent over all properties in that area, and O. M. Evans, for a number of years superintendent of the Slick-Bristow district, has again joined the company and becomes division superintendent in Southern Oklahoma and North Texas areas.

E. W. Bisett, now in charge of Smackover operations in Southern Arkansas, has been made division superintendent in charge of all properties in that state, as well as the Powell district in Central Texas. J. S. Freeman, who has been assistant to the superintendent, has been made assistant to the vice president in charge of production.

As a concluding feature to the conference here, a banquet was given by the company at the Hotel Mayo and short talks were made by officials of the company, with Mr. Stalcup presiding.

THE FT. WORTH LABORATORIES

Field Gas Testing. Analysis of oil field brines, gas minerals and oil. Sell Thermometers, Hydrometers and Laboratory Glassware

F. B. Porter, B. S., Ch. E., Pres.
R. H. Fash, B. S., Vice-President
828½ Monroe St. Ft. Worth, Tex.

PATENTS OBTAINED FOR INVENTORS
JACK A. SCHLEY
U.S. PATENT ATTORNEY
305 INTERURBAN BLDG., DALLAS

Is the Day of the Ball & Seat Nearing Its End?

First of all, Norris Brothers concede leadership to no one in the manufacture of high-grade BALLS and Seats. No-Co-Ros, because of their true fit, non-corrosive properties and long life, have been at the top in this field for 17 years.

But, even we have to admit that in comparison with the DROP and Seat, no ball and seat in the world has a chance. The principle of the DROP is simply so far in advance of the ball that comparisons are impossible.

Week after week, under the severest conditions, the No-Co-Ro DROP falls accurately and cleanly into its seat without sign of rattle, flutter or clatter. Long bearing in crown prevents pounding out of crown wings. No-Co-Ro alloy steel protects exposed portions against corrosion—but the most important portion, the amply-sized, perfectly ground seating surface, IS NOT EVEN EXPOSED TO THE ELEMENTS. Amazingly long life—hitherto unheard-of operation—is a standard thing with No-Co-Ro DROPS AND SEATS.

But we could write from now until Christmas without definitely proving what the DROP & SEAT would do in your wells. We want to demonstrate that in ACTION. That is why we make this proposition, without reservations of any kind:

Install DROPS & SEATS in your worst wells. Compare their service with that of the best balls and seats you have ever used. If they don't show up 100 per cent better, let us know and your money will be refunded.

This is the guarantee of a company with 17 years of square dealing behind it. At your supply house or direct.

NORRIS BROS., Inc.
Manufacturers of Oil Well Pumping Equipment
ROBINSON, ILL.
Mid-Continent Warehouse:
Fort Worth, Texas

Recognized Geologists

HEATH M. ROBINSON
GEOLOGIST
304 American Exch. Nat. Bank Bldg.
DALLAS, TEXAS
Telephone: X-2738

DEWITT T. RING
Geologist
Armstrong Bldg. El Dorado, Ark.

JOSEPH L. ADLER
Consulting Geologist
1115 First National Bank Bldg.
Denver, Colorado.

W. ARMSTRONG PRICE
Geologist
2801 Main St. Houston, Texas
Telephone: Hadley 8839.

William H. Foster W. A. Reiter
FOSTER & REITER
CONSULTING GEOLOGISTS
19th Floor, Magnolia Bldg., Dallas
Atlas Life Bldg., Tulsa

EDWIN B. HOPKINS
CONSULTING GEOLOGIST
25 Broadway
NEW YORK

VINSON, ELKINS & WOOD
ATTORNEYS
Gulf Building, Houston, Texas
Special Attention to Oil Leases and Litigation

Maurice Hirsch & Allen Hannay
ATTORNEYS AT LAW
601-2-3 Goggan Bldg.
HOUSTON, TEXAS
Specializing in Oil Law and Land Law

Transcontinental Starts Moving

Pittsburgh, Pa.—The first department of the Transcontinental Oil Company to be removed from Pittsburgh to Tulsa is the insurance department, which will be housed in the company's new quarters in the Ritz Building, now under construction. C. O. O'Neale is heading the insurance department and is leaving for Tulsa. Other department heads and officials of the company will complete the transfer as rapidly as possible. Four floors of the new Ritz Building in Tulsa have been reserved for the Transcontinental offices. Quarters also are being used in the new Wright Building in Tulsa.

Cacalilao Well Shows Emulsion

Panuco, Veracruz.—When the Mexican Sinclair completed its well No. 41, lot 3, Cacalilao, on August 16, at the extremely shallow depth of 1575 feet, it was generally thought that the company had received a turn from its unsuccessful drilling campaign in Cacalilao for over a year. The well was hooked up and was flowing at 5400 barrels daily when it showed 3 percent emulsion and water. It was closed in and smaller connections put on with the result that it is again flowing clean oil to the extent of 2500 barrels daily.

American Cable Company Appoints New Distributors

New York.—The American Cable Company has appointed the well-known firm of Bruntons-Musselburgh to handle its general line, including Tru-loc fittings and Tru-lay wire rope, in Scotland.

The Dominion Wire Rope Company, Montreal, is also a new Canadian distributor.

Other new distributors are: The Marion Machine, Foundry & Supply Company, Marion, Ind.; J. Shuman Hower, 106 Foster Building, Utica, N. Y.; The Contractors Equipment Company, 8 Steuben Street, Albany, N. Y., and John C. Louis, 221 S. Eutaw Street, Baltimore, Md.

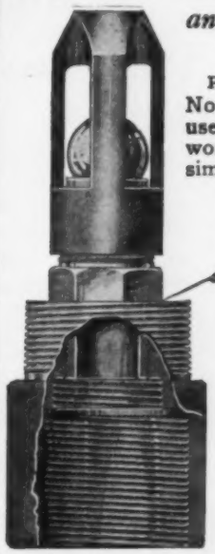
Oil Equipment Catalog

Butler Manufacturing Company, Kansas City, Kansas, and Minneapolis, Minnesota, has recently released a new catalog giving complete descriptions of all equipment manufactured by this company.

Equipment manufactured by the Butler company includes that needed by all three branches of the oil industry, producing, refining, and marketing. Truck tanks, storage tanks, and pumps are featured in the catalog, but much space is given other equipment.

When writing for copies of the catalog, call for book 84.

Adams Combination Cuff and Standing Valve



Patent No. 1353303

Not necessary to use special cuff on working barrel — simply take a top cuff off of any old barrel and substitute for bottom cuff, then screw hydraulic valve in place.

Made of bronze with steel crown ball and seat.

Has a salvage value.
Sizes 1¾, 2¼, 2¾, 3¼ inches

Manufactured only by

Southern Brass Mfg. Co.
HOUSTON, U. S. A.

OIL AND GAS LEASES
Marathon Fold—West Texas

12,000 acres University Permits, PECOS COUNTY, Dated Oct. 1, 1924, 5 years. The new law makes these permits most attractive. Can be subdivided into 40 acre tracts. Near Sun, Gulf, Dixie, California Company, Phillips, Arkansas Fuel, Humble holdings.

10,000 acres CROCKETT COUNTY. Large and small blocks; adjoining big companies; scattered wildcat. Also close-in adjoining World well block.

20,000 acres 10 year leases; low rentals; TERRELL COUNTY. Getting good play. Watch this county! Prices right.

5 000 acres Upton County. Scattered tracts, blocks for drilling.

60,000 acres one block—southeast PECOS COUNTY—on geological formation. Most attractive as to desirability, price and terms.

2,000 acres IRION COUNTY. 10 year lease; watch the new work here.

12,000 acres LOVING COUNTY. 10 year lease 10 cent rental. Right in line.

Write for prices and maps. Will allow time for geological inspection.

C. W. WEBSTER
W. T. Waggoner Bldg., Ft. Worth, Texas
Reference: Mercantile Agencies

REGISTERED PATENT ATTORNEYS
United States and Canada.
Send for blank form
EVIDENCE OF CONCEPTION
Bulletin "How to Establish Your Rights" and complete information free.
LANCASTER AND ALLWINE
440 Ouray Bldg. Washington, D. C.

"WONDER" Cold Pipe Bending Machines. Guaranteed not to flatten, crimp or split pipe. 14 sizes of machines. Hand and Motor operated. What it costs to bend pipe our way. Per bend.

1" pipe	5c	4" pipe	25c
2" pipe	10c	6" pipe	60c
3" pipe	$1.00		

Machines list from $88.00 to $4850.00. Send for catalogue.
American Pipe Bending Machine Company
44 Pearl St. Boston, Mass.

The Gott Water Can
Wherever there is oil field activity, you will find the Gott Water Can. Used universally because it produces results. Made to stand hard usage. Galvanized, GUARANTEED. All sizes. Order thru your Supply House.
The
H.P. Gott Mfg. Co.
Winfield~Kans.

STOCKED BY LEADING SUPPLY HOUSES

French Gas-Tite Tubing Anchor

This photograph shows a French gas tight tubing anchor after the rig was destroyed by fire. After the rig was rebuilt the same anchor and tubing were replaced in the well, the first joint of tubing being the only portion necessary to replace.

Absolute protection against loss or damage of tubing by wind or fire.

Houston Pump & Supply Co.

HOUSTON, TEXAS

EXPERT WELL SHOOTING

Our shooters all are experienced, careful and expert men. Their time spent in this service averages more than fifteen years so they had to be right. Remember this when you order that next shot.

STATIONS

TEXAS		OKLAHOMA			KANSAS
Breckenridge	Gorman	Bartlesville	Drumright	Tonkawa	Eureka
Colorado	Ranger	Cromwell	Okmulgee	Tulsa	Madison
		Cleveland	Stroud	Webb City	

THE EASTERN TORPEDO OF OHIO CO.

No Evidence of Restricted Drilling in Tampico Section

Tampico, Tamaulipas.--That the companies operating in Mexico, especially in the Tampico district have no intention of restricting their drilling operations is evidenced by the unusual number of drilling permits applied for in the ten day period ending August 25. Fifteen companies asked permission to start work on 50 wells in 17 different haciendas in the light and heavy oil fields with all but five of the permits in the latter district.

The greatest activity continues in hacienda Cacalilao, the location of 23 of the applications, of which 12 were made by the Transcontinental Petroleum Company (Standard of N. J.) with the Mexican Seaboard following with seven. The Standard subsidiary also applied for a permit in Barberena, the Pan American Eastern through its two subsidiaries the Mexican Petroleum Corporation and the Huasteca Petroleum Company applied for a permit each in Chijol and San Pedro; two in Chapacao; two in La Dicha and three in Chijol, all in the northern district and one in Tierra Blanca in the light oil country. Permits were also asked by the La Atlantica in Amatlan and the Mexican Eagle in Laguna Tamiahua and Cerro Viejo also in the light oil fields, while in the heavy oil region the companies in addition to the above asking for permission to go ahead in exploitation were the National Railways in Chapacao; Marland in Limon; United States and Mexico Banana Company, Herradura; Tampascas Oil Company, Tampascas; Sinclair, Panuco; Penn Mex Fuel Company, Paciencia; Gulf Oil Company, Chapacao; Compania Petrolero Chileno Mexicana, S. A. Federal Zone Panuco, and the Dutch Shell in Corcovado.

Pipe Machines to South America

Kansas City, Mo.—The last of three 10 and 12-inch California pipe line machines has just been shipped by the California Pipe Line Machine Company of Kansas City to Colombia, South America. The machines are for the Andean National Corporation, Ltd., operating subsidiary of the International Petroleum Corporation, subsidiary of Imperial Oil., Ltd., of Canada.

Montebello, Calif. — H. L. Whiston's Bicknell 1 failed to make any significant showings down to a depth of 5003 feet, and the well, which it was hoped would form a western extension to the Montebello field, is being plugged back to 4520 feet to test a formation showing a fair cut there.

AMERICAN TANK CO. TRADE Quality MARK WHOLESALE RETAIL

Problems Studied in Making American Quality Tanks

(1) Quality of Steel to use in Bolted and Welded Tanks.

(2) Design and construction of Bolted Tanks.

(3) Practical and convenient tank fittings and appliances.

(4) Comparative strength of Welded, Riveted and Bolted Construction.

(5) When to use a Welded, a Riveted, a Bolted or a Wood tank.

(6) Effective means of preventing evaporation.

(6-a) Comparative effectiveness of Welded, Riveted, Bolted and Wood tanks in conservation of oil.

(6-b) Effect of pressure in tanks as means of conservation.

(6-c) Color of paint to use on tanks.

(7) Comparison of fire hazard with Welded, Riveted, Bolted and Wood tanks.

(8) Comparative cost of Welded, Riveted, Bolted and Wood tanks.

Our Engineers have assembled, in booklet form, data obtained from oil companies and other recognized authorities, answering in detail the above problems.

WE WILL SEND YOU A COPY FREE ON REQUEST

A BATTERY OF AMERICAN BOLTED TANKS

PROBLEM No. 6-C

Color of paint to use on tanks as a means of conservation.

ANSWER:

Tests made by the Bureau of Mines proves that in tanks painted a light color there is considerably less evaporation than in tanks painted any dark color. As a final precaution against the evaporation thief ALL AMERICAN GAS-TIGHT TANKS are painted a VERY LIGHT GREY. (See pamphlet for proof of why it is best.)

TELL US YOUR TANK NEEDS

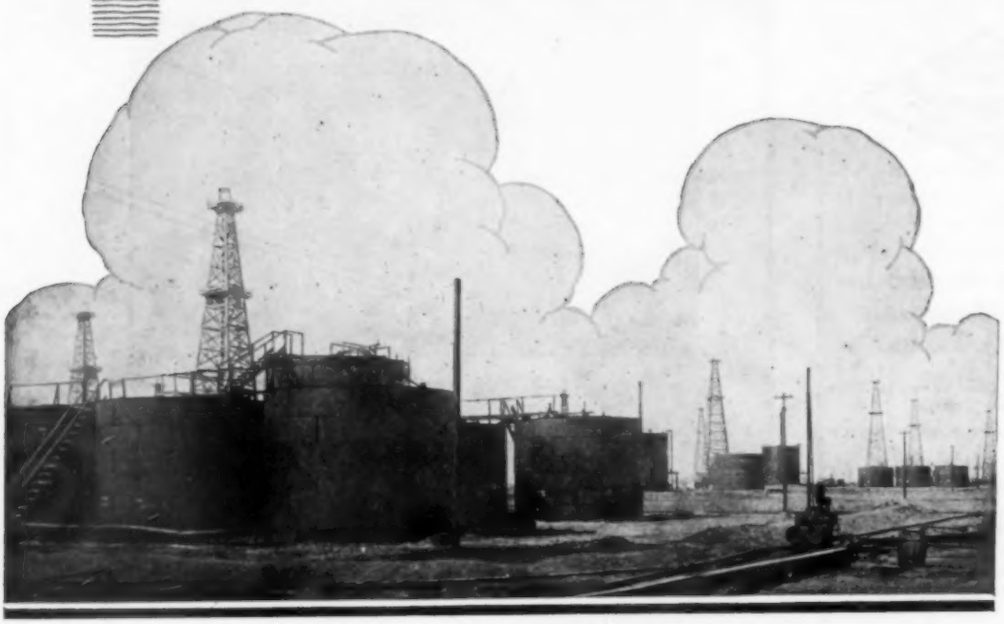
AMERICAN TANK COMPANY

OKLAHOMA CITY AND TULSA

Service given in Oklahoma, Kansas, Arkansas, Texas, New Mexico, Colorado and Wyoming Oil Fields.

"Visit the Petroleum Exposition and SEE THE IDEAL LEASE TANK INSTALLATION at our booth in the Texas Building"

PERFECTION VAPOR PRESSURE TANKS
WOOD, AND BOLTED STEEL TANKS



Perfection tanks in the Wortham pool, Texas

Buying Protection As Well As Storage

IN making a purchase of Perfection Vapor Pressure tanks, don't think of the transaction as merely a case of spending good money for storage.

It goes a lot further than that!

It's a guarantee of protection against evaporation, against the ever-present fire menace and against a loss in gravity.

All in all, it's really not an outlay, for using plain arithmetic, the saving effected in a very short time will more than pay for the entire battery.

Get in touch with our representative in your field who really is a specialist in storage problems. It will not obligate you in the least, and may be the initial step that will make you thousands of dollars.

Black Sivalls & Bryson
INC.

BARTLESVILLE ~ OKLAHOMA

Branch offices in all principal active fields

SQUEAKS FROM THE BULL WHEEL

"Our violinist here was offered $1000 for that instrument last week."

Guest—"I can't go that high, but I'll give him $20 if he'll quit right now.—Boston Transcript.

"Doesn't your wife motor with you any more?"

"No," answered Mr. Chuggins. "She's too nervous. Every time a cop shoots at a bootlegger she thinks we've had another blowout."

Lady—"Have you been accustomed to have a kitchen maid under you?"

Cook—"In these days we never speak of having people 'under us,' but I have had colleagues."—The Humorist.

A Hibernian lady, being brought to court charged with assault upon a neighbor, pleaded not guilty. The prosecutor leaned forward, shook his finger in her face and shouted:

"If we prove you guilty, which we will do, will you tell us why you committed this offense?"

"I will not!" retorted the defendant hotly. "I had me own reasons." — American Legion Weekly.

"What is your occupation?"

"I used to be an organist."

"And why did you give it up?"

"The monkey died."

"I'm going to fire that proofreader," said the editor.

"Why?" asked the assistant editor.

"Why, he's in the habit of letting funny mistakes go through and then bringing them to the columnist's attention."

"She was deceived in him, poor girl."

"Deceived in Jack?"

"Dreadfully! She thought it was love that was making him so pale and thin, and it was only going without food so as to buy her presents."

"Here, waiter, bring me a spoon for my coffee."

"Sorry, but we don't serve them—the music here is so stirring."

The applicant for cook was untidy and insolent in appearance.

"Don't hire her," whispered Jones to his wife. "I don't like her looks."

"But," remonstrated his wife, 'just consider the reputation for cooking she bears."

"That doesn't matter," said Jones testily. "We don't want any she bears cooked. We don't like them."

Sam: What is yo nowadays?

Bo: I's an exporter.

Sam: An exporter?

Bo: Sure, the Pullman Company just fired me.

Boy, Page Ananias!

Two of the boys in the Tulsa office were boasting about their rich kin. Said one of the boys: "My father has a big farm in Oklahoma. It is so big that when he goes to the barn on Monday morning to milk the cows he kisses us all goodby, and he doesn't get back until the following Saturday."

"Why does it take him so long?" the other man asked.

"Because the barn is so far away from the house."

"Well, that's a pretty big farm, but compared to my father's farm down in Texas your father's farm is no bigger than a city lot."

"How big is your father's farm?"

"Well, it's so big that my father sends young married couples out to the barn to milk the cows, and the milk is brought back by their grandchildren."—Pure Oil News.

First Member of the Cavalry Detachment: "Lookee heah, Joe, how come youall to teach dat dere mule all dem tricks? Ah can't teach mah mule nothin'!"

Second Ditto: "Dat's easy; you-all jes' has to know moh dan de mule."

"Wop, that razor sure does pull."

"That's all right, I'll get the whiskers off if the handle doesn't break."

His Interest

Three Scotchmen, McDougal, McFerson and McHenry, were chums in the trenches.

One evening a shell burst over the trench where they were stationed and blew McHenry's head off.

McDougal turned to McFerson and remarked:

"Lord Almichty, McHenry's lost his head!"

McFerson in great excitement asked:

"What are ye saying—McHenry lost his head. Where did it go to?"

"What diff'rence does it make? It's gane," answered McDougal philosophically.

"What diff'rence does it make?" retorted McDougal. "Mebbe none tae ye, but he has me pipe in his mouth."

The young married couple entered the furniture store.

The Young Hubby (bashfully): "We want to look at a bedroom suite for our new home."

The Clerk: "Yes, sir. Do you want twin beds?"

The Young Wife (blushing): "Oh, heavens, no! Just a small cradle."

Teacher—"What is the meaning of a false doctrine?"

Johnny—"That's when the doctor gives the wrong stuff to sick people."

Brother, at what price do you value that cow I saw down by the railroad this morning?

Say, who are you, the tax assessor, or has my cow been killed by a train?

There was a man in our town,
And he was a speedy guy.
He turned the corner on two wheels,
Crossed crossings on the fly.
But yesterday, the Extras say,
This wise man saw the light.
His flivver stalled on the railroad track—
Toot, toot! Ding, dong!
Good-night!

"Is your chauffeur economical?"

"Very; he never runs the car on more than two wheels or three cylinders."

THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

Assembly

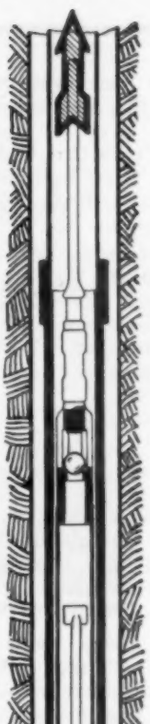
Axelson Liner Pumps function perfectly

Every part fits accurately

Parts interchangeable

Produced in types and sizes to meet the individual conditions of every well.

Catalog on Request



First Up Stroke

The Down Stroke

Axelson Machine Company

Western Factory and General Offices:
Corner Boyle Ave. and Randolph St., Los Angeles, Cal. P. O. Box 337

Eastern Sucker Rod Factory: 3844 Walsh Street, St. Louis, Mo.
Mid-Continent Office: 1023 Kennedy Building, Tulsa, Oklahoma

Mid-Continent Distributors: Frick-Reid Supply Co.
Eastern Distributors: Frick & Lindsay Supply Co.
Casper, Wyo., Office: With Frick-Reid Supply Co.
New York City: 30 Church St.

GUIDE FOR PURCHASERS

A classified directory of all products used in the production of oil together with names of recognized supply dealers and manufacturers from whom they may be purchased. The concerns appearing in the Guide are regular advertisers in The OIL WEEKLY and further information including addresses can be secured by referring to their advertisements. Alphabetical Advertisers Index on page 22.

Air Compressors—
Continental Supply Co.
Gardner Governor Co.
Hope Engineering & Supply Co.
Southern Engine and Pump Co.
Waukesha Motor Co.

Air Lift Pumping Equipment—
Gardner Governor Co.
Sullivan Machinery Co.

Asbestos Roofing—
Johns-Manville, Inc.

Attorneys—
Hirsch & Hannay
Vinson, Elkins & Wood

Balls and Seats—
Continental Supply Co.
Norris Brothers
Northrup Equipment Company
The Charles N. Hough Mfg. Co.

Band Wheels—
Continental Supply Co.
Emsco Steel Products Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.

Bell Nipples—
The Cunningham Co.

Belting—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Co.
Gustin Bacon Manufacturing Co.
International Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Stanley Belting Corp.

Bit Steel—
Central Steel Co.

Black Diamonds—
R. S. Patrick

Boilers—
Bridgeport Machine Co.
The Brownell Co.
Continental Supply Co.
Frick-Reid Supply Co.
International Supply Co.
The National Supply Cos.
Oil Well Supply Co.
Republic Supply Co.
Regan Forge & Engineering Co.
Star Drilling Machine Co.
Titusville Iron Works Co.
United Iron Works, Inc.
See Oil Field Supplies and Tanks

Boiler Mountings—
The Lunkenheimer Co.

Boiler Tubes—
Monongahela Tube Co.

Boiler Tubes—
The Tyler Tube & Pipe Co.

Blowout Preventer—
Baash-Ross Tool Co.
Cameron Iron Works
Continental Supply Co.
Regan Forge & Engineering Co.

Burners—
Continental Supply Co.
Gasc Pump & Burner Mfg. Co.
Gould Burner Co.
Regan Forge & Engineering Co.

Bull Wheels—
Continental Supply Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.

Calf Wheels—
Continental Supply Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.

Carbon and Bortz—
R. S. Patrick

Casing—
Continental Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
South Chester Tube Company
Superior Tube Co.

Casing Shoes—
Baker Casing Shoe Co.
Bridgeport Machine Co.
Continental Supply Co.
The National Supply Cos.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.

Cement—
Oklahoma Portland Cement Co.

Cement Hardener—
The Sullivan Co

Cement Head—
MacClatchie Mfg. Co.

Chain Blocks—
Yale & Towne Mfg. Co.

Charcoal Iron Boiler Tubes—
The Tyler Tube & Pipe Co.

Chemicals—
Ward Chemical Co.

Collapsible Rotary Bits—
O. M. Carter

Control Heads—
Continental Supply Co.
Southern Brass Mfg. & Plating Co.

Conservation—
Westcott and Greis

Core Drills—
O. M. Carter
Elliott Core Drilling Co.
H. C. Smith Mfg. Co.
Spengler Core Drilling Co.

Compressors—
Butler Mfg. Co.
Continental Supply Co.
Gardner Governor Co.
Hope Engineering & Supply Co.
Sullivan Machinery Co.
United Iron Works, Inc.

Cordage—
Continental Supply Co.
The National Supply Cos.
Republic Supply Co.

Crown Blocks—
Baash-Ross Tool Co.
Continental Supply Co.
International Derrick & Equipment Co.
Lufkin Foundry & Machine Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Superior Tube Co.

Couplings—
Continental Supply Co.
Harrisburg Pipe & Pipe Bending Co.
Superior Tube Company

Cocks, Drain—
The Lunkenheimer Company

Dehydrating Processes—
Wm. S. Barnickel Co.
Petroleum Rectifying Co.

Derricks and Rigs—
International Derrick & Equipment Co.
Lee C. Moore & Co.
National Turnbuckle Derrick Co.
Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.
Robertson-McDonald Lumber Co.
Superior Tube Company

Diamond, Black—
R. S. Patrick

Diamond Core Drills—
R. S. Patrick
Sullivan Machinery Co.

Diamond Drilling Carbon—
R. S. Patrick

Disc Bits—
Continental Supply Co.

Diesel Engines—
McIntosh & Seymour Corp.

Ditchers—
Buckeye Traction Ditcher Co.

Draw Works—
Continental Supply Co.
Lufkin Foundry & Machine Co.

Drilling Cables—
American Cable Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Co.
The National Supply Cos.
Peden Iron & Steel Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Star Drilling Machine Co.
Wickwire Spencer Steel Corp.

Drill Pipe Slips—
Baash-Ross Tool Co.
Continental Supply Co.

Drilling Machines—
Bridgeport Machine Co.
Continental Supply Co.
Parkersburg Rig & Reel Co.
Star Drilling Machine Co.

Drill Collars—
Baash-Ross Tool Co.
Continental Supply Co.

Drill Pipe Cutting—
Baash-Ross Tool Co.
Houston Engineers, Inc.

Drilling Tools—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Continental Supply Co.

Drilling, Diamonds for—
R. S. Patrick

Drill Pipe
Continental Supply Co.
Frick-Reid Supply Co.
Republic Supply Co.
Reading Iron Co.
South Chester Tube Company

Drilling Equipment—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Republic Supply Co.
Star Drilling Machine Co.

Drive Pipe—
Continental Supply Co.
Republic Supply Co.
Reading Iron Co.
Superior Tube Company

Electrical Equipment—
General Electric Co.
Westinghouse Elec. & Mfg. Co.

Elevators—
Bridgeport Machine Co.
Continental Supply Co.
The Cunningham Co.
Dunn Mfg. Co.
LeBus Rotary Tool Works
Wilson & Willard Mfg. Co.

Electric Equipment—
General Electric Co.

Engines, Diesel—
Western Machinery Co.

Engines, Gas—
Bruce-Macbeth Engine Co.
Climax Engineering Co.
Continental Supply Co.
Frick-Reid Supply Co.
Hope Engineering & Supply Co.
Spence Machine Co.
The Pattin Bros. Co.
Waukesha Motor Company
Western Machinery Co.

Engines (Gasoline or kerosene)—
Climax Engineering Co.
Waukesha Motor Co.

Engines, Oil—
Continental Supply Co.
Frick-Reid Supply Co.
The Pattin Bros. Co.
Western Machinery Co.

Engines, Pumping—
Ajax Iron Works
Bessemer Gas Engine Co.
Bridgeport Machine Co.
Climax Engineering Co.
Continental Supply Co.
The Brownell Co.
De La Vergne Machine Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hope Engineering Co.
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
The National Supply Cos.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
Republic Supply Co.
Rock Island Plow Co.
Spence Machine Co.
Southern Engine & Pump Co.
Titusville Iron Works
Waukesha Motor Company
Western Machinery Co.

Engineers—
David Donoghue
Foster & Reiter
Hope Engineering & Supply Co.
Lee C. Moore & Co.
North American Exploration Co.
Oil Conservation Engineering Co.
D. T. Ring
Westcott and Greis

Fire Protection—
Continental Supply Co.
Oil Conservation Engineering Co.

Fish Tail Bits—
Continental Supply Co.
Frick-Reid Supply Co.
Lucey Mfg. Corp.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.

Floor Circle Brace—
Continental Supply Co.
Dunn Mfg. Co.

Fuel Oil—
Gulf Refining Co.
Sinclair Refining Co.

Gasoline Extraction Compressors—
Continental Supply Co.
Bessemer Gas Engine Co.
Hope Engineering & Supply Co.
Sullivan Machinery Co.

Gauge Cocks—
The Lunkenheimer Company

Gauges—
Continental Supply Co.
Oil Conservation Engineering Co.
Westcott and Greis

Gas Engines—
C. F. Camp Co.
S. M. Jones Co.
Waukesha Motor Co.

Gas Generators—
Baird Supply Co.

Gas Traps—
American Tank Co.
Continental Supply Co.
Lorraine Corp.
Smith Separator Co.
Trumble Gas Trap Co.

Gasoline and Oil Storage Tanks—
American Tank Co.
Butler Mfg. Co.
Continental Supply Co.
Kansas City Struct. Steel Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co., The

Genuine Wrought Iron Casing—
Reading Iron Co.

Geologists—
Joseph L. Adler
Edwin B. Hopkins
Foster & Reiter
Heath M. Robinson
Price W. Armstrong

Governors—
Gardner Governor Co.

Grips and Clamps—
Continental Supply Co.
J. P. Ratigan

Heat Exchangers—
Brown Welding & Machine Co.
Hope Engineering & Supply Co.

Hoists—
Emsco Steel Products Co.

Hose—
Continental Supply Co.
Gustin Bacon Mfg. Co.

Houses—
Crain Ready-Cut House Co.

Iron Casing—
Superior Tube Company

Jars—
Spang & Co.

Laboratory Equipment—
Continental Supply Co.
Fort Worth Laboratories

Lapwelded Steel Boiler Tubes—
The Tyler Tube & Pipe Co.

Lighting Systems—
Bridgeport Machine Co.
Continental Supply Co.
General Electric Co.
Westinghouse Elec. & Mfg. Co.

Line Pipe—
Continental Supply Co.
Republic Supply Co.
Reading Iron Co.

Lumber—
Robertson-McDonald Lumber Co.

Lubricators—
The Lunkenheimer Company
Manzel Bros. Co.

Manufacturers—
Robinson Packer Co.

Maps—
Heydrick Mapping Co.

Meters—
Continental Supply Co.
Westcott and Greis

Motors—
General Electric Co.
Twin City Co.
Westinghouse Elec. & Mfg. Co.

Oiling Devices—
The Lunkenheimer Company

Oil Field Equipment—
H. Bickman

Oil Field Supplies—
American Tank Co.
Butler Mfg. Co.
Bridgeport Machine Co.
Continental Supply Co.
The Cunningham Co.
C. C. Fetty
Frick-Reid Supply Co.
Erle P. Halliburton
Jarecki Mfg. Company
International Supply Co.
Kansas City Struct. Steel Co.
Lee C. Moore & Co.
Lucey Mfg. Corp.
The Lunkenheimer Company
The National Supply Cos.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.
Pelican Well Tool & Supply Co.
Petroleum Iron Works Co., The
Republic Supply Co.
Regan Forge & Engineering Co.
Robinson Packer Co.
Smith Separator Co.
Southern Brass Mfg. & Plating Co.
Superior Tube Co.
United Iron Works, Inc.
J. H. Williams & Co.

Oil Well Casing—
Continental Supply Co.
Frick-Reid Supply Co.
Republic Supply Co.
Superior Tube Company

Oil Well Cementing—
Erle P. Halliburton
Oklahoma Portland Cement Co.

Oil Well Reamers—
Jones Oil Well Reamer Co.

Oil Well Shooting—
Eastern Torpedo Company
U. S. Torpedo Co.
Zero Hour Torpedo Co.

Overshots—
Baash-Ross Tool Co.
Continental Supply Co.
LeBus Rotary Tool Works

Packers—
Continental Supply Co.
The Guiberson Corp.
Layne & Bowler
Robinson Packer Co.
Pelican Wael Tool & Supply Co.
Regan Forge & Engineering Co.

Packing—
Continental Supply Co.
D. F. Connolly Agency
Gustin Bacon Manufacturing Co.
Frick-Reid Supply Co.
The National Supply Cos.
Peden Iron & Steel Co.
Pelican Well Tool & Supply Co.
Republic Supply Co.

Paints—
Continental Supply Co.
Peden Iron & Steel Co.

Panel Boards—
General Electric Co.
Westinghouse Elec. & Mfg. Co.

Pipe—
A. M. Byers Co.
Continental Supply Co.
Frick-Reid Supply Co.
Harrisburg Pipe & Pipe Bending Co.
International Supply Co.
The National Supply Cos.
Oil Well Supply Co.
Peden Iron & Steel Co.
Reading Iron Co.
Republic Supply Co.
South Chester Tube Company
Superior Tube Company

Patents—
Hardway & Cathey
Lancaster & Allwine
Jack A. Schley
Jesse B. Stone

Pipe Grips—
Continental Supply Co.

Pipe Insulation—
Johns-Manville, Inc.

Pipe Screwing Machines—
Buckeye Traction Ditcher Co.

Pipe Threading Machines—
Jarecki Mfg. Company
Standard Engineering Co.

Pipe Vises—
J. H. Williams & Co.

Pipe Wrenches—
Continental Supply Co.
Dunn Mfg. Co.
The Guiberson Corp.
Trimont Mfg. Co.
LeBus Rotary Tool Works
Republic Supply Co.
J. H. Williams & Co.
Wickwire Spencer Steel Corp.

Portable Buildings—
Butler Manufacturing Co.
International Derrick & Equipment Co.

Portable Drilling Rigs—
Bridgeport Machinery Co.
Continental Supply Co.
Lee C. Moore & Co.
Parkersburg Rig & Reel Co.
The National Supply Cos.
Waukesha Motor Co.

Pulleys—
Continental Supply Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.

Pulling Machines—
Clark Machine Co.
Continental Supply Co.
Iron King Mfg. Co.

Pumps—
Axelson Machine Co.
Continental Supply Co.
D. & B. Pump & Sup. Co.
C. C. Fetty
Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Manufacturing Co.
Jarecki Mfg. Company
Lucey Manufacturing Corp.
National Transit Pump & Machine Co.
Northrup Equipment Company
Oil Well Supply Co.
Pelican Well Tool & Supply Co.
Republic Supply Co.
Southern Engine & Pump Co.
Texas Oil Pump Co.
United Iron Works, Inc.
Waukesha Motor Co.

Portable Compressors—
Continental Supply Co.
Sullivan Machinery Co.

Pumping Engines—
C. F. Camp Co.
McIntosh & Seymour Corp.

Pumping Equipment—
General Electric Company
Northrup Equipment Company
Shaffer Specialty Co.

Pumping Powers—
Continental Supply Co.
C. C. Fetty
Frick-Reid Supply Co.
International Supply Co.
Jarecki Mfg. Co.
Jensen Bros. Mfg. Co.
Spence Machine Co.

Regulators—
Westcott and Greis

Refined Products—
Gulf Refining Co.
Humble Oil & Refining Co.
Magnolia Petroleum Co.
Sinclair Refining Co.
Texas Co.

Recorders—
Fort Worth Laboratories

Refinery Equipment—
American Tank Co.
Butler Mfg. Co.
Continental Supply Co.
Oil Conservation Engineering Co.
Petroleum Iron Works Co., The
Republic Supply Co.
Smith Separator Co.
Titusville Iron Works
United Iron Works, Inc.
Westcott and Greis
Wyatt Metal & Boiler Works

Rig Irons—
Bradford Rig & Reel Co.
Continental Supply Co.
International Supply Co.
Lee C. Moore & Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.

Rotaries—
International Supply Co.

Rotary Rock Bits—
Continental Supply Co.
Hughes Tool Co.
Reed Roller Bit Co.

Rotary Fish Tail Bits—
Continental Supply Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.

Safety Casing Clamps—
Shaffer Specialty Co.

Sand Reel Supports—
Shaffer Specialty Co.

Separators—
American Tank Co.
Butler Mfg. Co.
Continental Supply Co.
Lorraine Corp.
M. & V. Tank Co.
Smith Separator Co.
Trumble Gas Traps

Specialty Manufacturers—
Shaffer Specialty Co.

Steel Bull Wheels—
Bradford Rig & Reel Co.
McIntosh & Seymour Corp.

Structural Steel—
Butler Mfg. Co.
United Iron Works, Inc.

Steel Derricks—
Continental Supply Co.
Emsco Steel Products Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.
Superior Tube Company

Steel Crown Blocks—
Continental Supply Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.
Superior Tube Co.

Steel Storage Tanks—
American Tank Co.
Butler Mfg. Co.
Continental Supply Co.
Petroleum Iron Works Co., The

Still Covering—
Johns-Manville, Inc.

Strainers—
Continental Supply Co.
Emsco Steel Products Co.
Howard Smith Company
Kobe, Inc.
Layne & Bowler Co.
J. H. McEvoy & Co.
Pelican Well Tool & Supply Co.

Stuffing Boxes—
A. W. Fawcett

Special Steels—
Central Steel Co.

Steel Tanks—
Bradford Rig & Reel Co.

Sucker Rod Lines—
Continental Supply Co.

Sucker Rod Elevators—
The Cunningham Co.

Sucker Rod Hangers—
Lorraine Corp.
Robinson Tool Co.

Sucker Rod Hooks—
The Cunningham Co.

Sucker Rod Sockets—
Baird Supply Co.
Brown Welding & Machine Co.
Continental Supply Co.
The Cunningham Co.
Shaffer Specialty Co.
Western Supply Co.

Sucker Rods—
Axelson Machine Co.
Continental Supply Co.
Columbus Sucker Rod Co.
D. & B. Pump & Sup. Co.
Dunn Mfg. Co.
Frick-Reid Supply Co.
S. M. Jones Co.
The National Supply Cos.
Oil Well Supply Co.
J. F. Ratigan
Republic Supply Co.

Swabs—
Continental Supply Co.
The Cunningham Co.
Shaffer Specialty Co.

Tank Bolts—
Continental Supply Co.

Tanks—
American Tank Co.
Butler Mfg. Co.
Black, Sivalls & Bryson
Continental Supply Co.
The Brownell Co.
Kansas City Struct. Steel Co.
Maloney Tank Co.
M. & V. Tank Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co., The
United Iron Works
Wyatt Metal & Boiler Works

Tank Deadwood—
Robertson-McDonald Lumber Co.

Tank Equipment—
Continental Supply Co.
Johns-Manville, Inc.
Oil Conservation Engineering Co.
Parkersburg Rig & Reel Co.
Westcott and Greis.

Tank Insulation—
Johns-Manville, Inc.

Tank Roofs—
Johns-Manville, Inc.

Temper Screws—
Burns Tool Co.

Thermometers—
Continental Supply Co.
Fort Worh Laboratories

Timbers—
Robertson-McDonald Lumber Co.

Tongs—
Bridgeport Machine Co.
Continental Supply Co.
Dunn Mfg. Co.
Gulberson Corp.
Howard Smith Company
LeBus Rotary Tool Works
Pelican Well Tool & Supply Co.
J. H. Williams & Co.
Wilson & Willard Mfg. Co.

Tool Joints—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Steel Products Co.
Hughes Tool Co.
Pelican Well Tool & Sup. Co.
Regan Forge & Engineering Co.
Republic Supply Co.

Tools (Fishing and Drilling)—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Brown Welding & Machine Co.
Continental Supply Co.
Frick-Reid Supply Co.
Houston Engineers, Inc.
Hughes Tool Co.
International Supply Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Spang & Co.
Star Drilling Machine Co.
Sullivan Machinery Co.

Toothless Slips—
Le Bus Rotary Tool Works

Tractor Winch—
C. F. Camp Co.
Rock Island Plow Co.
Twin City Co.

Traveling Blocks—
Baash-Ross Tool Co.
Continental Supply Co.
Lufkin Foundry & Machine Co.
Regan Forge & Engineering Co.

Tret-O-Lite—
W. S. Barnickel & Co.

Tubing Catcher—
Continental Supply Co.
Dunn Mfg. Corp.
Gulberson Corp.

Tubing Lines—
Continental Supply Co.

Tubing—
Continental Supply Co.
Republic Supply Co.
Reading Iron Co.
South Chester Tube Company

Underreamers—
Bridgeport Machine Co.
Continental Supply Co.
Wilson & Willard Mfg. Co.

Vacuum Pumps—
Continental Supply Co.
Sullivan Machinery Co.

Valves—
Bradford Motor Works
Continental Supply Co.
Darling Valve & Mfg. Co.
The Charles N. Hough Mfg. Co.
Ludlow Valve Mfg. Co.
The Lunkenheimer Company
Norris Bros.
Northrup Equipment Company
Oil Conservation Engineering Co.
The Wm. Powell Co.
Smith Separator Co.
Sour Lake Machine Co.
Southern Brass Mfg. & Plating Co.
Texas Oil Pump Co.
Westcott Valve Mfg. Co.

Valves, Gate—
The Lukenheimer Company

Valves and Fittings—
Continental Supply Co.
Darling Valve & Mfg. Co.
D. & B. Pump & Supply Co.
Jarecki Mfg. Company
Ludlow Valve Mfg. Co.
Lufkin Foundry & Machine Co.
The Lukenheimer Co.
The National Supply Cos.
Peden Iron & Steel Co.
The Wm. Powell Co.
Pittsburgh Reinforced Brasing & Machine Co.
Republic Supply Co.
United Iron Works

Vapor Tight Insulated Tank Tops—
Johns-Manville, Inc.

Walking Beams—
Continental Supply Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.

Welding and Cutting Equipment—
Continental Supply Co.

Working Barrels—
Axelson Machine Co.
Continental Supply Co.
D. & B. Pump & Sup. Co.
Howard Smith Company
Northrup Engineering Company
Republic Supply Co.
The Charles N. Hough Mfg. Co.
Southern Brass Mfg. & Plating Co.
Texas Oil Pump Co.

Water Gauges—
Continental Supply Co.
J. E. Shaffer Company
Smith Separator Co.

Water Cans—
Continental Supply Company
H. P. Gott Mfg. Co.

Water Softening Compound—
Ward Chemical Co.

Wire Rope—
American Cable Co.
Bridgeport Machine Co.
Continental Supply Co.
International Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
The National Supply Cos.
Wickwire Spencer Steel Corp.

Wire Rope Fittings—
American Cable Co.

Wire Rope Slings—
American Cable Co.

Approved for Field and Refinery Service

Stanley

Solid Woven Cotton Belting

WHO IS BOB ASKINS?

A few weeks ago he had relatively few admirers. Now millions know him as the World's Champion Bronc Rider. He won his title in open competition at Chicago against the world's finest.

Whether a man or a belt, there's a difference between just being able to say "good stuff" and saying "made good against the world where all the rest have been thrown."

That's why Bob Askins of Montana is the king bee today and that's why wise ones are buying STANLEY as their other belts wear out.

Sure, we'll be at the Tulsa show.

Write, wire, or phone stocks below

STANLEY BELTING CORPORATION

T. R. Barlett, P. O. Box 909, Tulsa, Phone Dial 2-7283

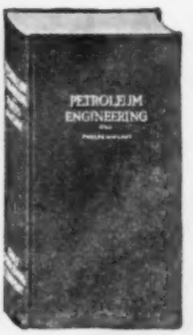
CHICAGO
W. R. Tucker, 5311 Richard Ave. Dallas, Texas. Phone H 6525

Hewitt Rubber Company of Colo., 1238 Broadway. Denver, Colo.

On permanent display at Tulsa Industrial Exhibition

NEW YORK
Pacific Coast Rubber Co., 316 Mission St., San Francisco, Cal.
500 E. 3rd St. Los Angeles, Calif.

JUST OFF THE PRESS



PETROLEUM ENGINEERING

—By—

ROBERT WILLIAM PHELPS
and
FRANCIS WILBUR LAKE
Petroleum Engineers

There has been a long felt want for a petroleum engineering handbook. This book is essentially in two parts, i. e., text and tables. The text deals with the theories of geology and petroleum geology in their application to the exploration, development and production of petroleum. Operating technology, appraisal and economics are also covered.

Half of the book is devoted to schedules for reports; tables covering chemical elements, petroleum compounds, geology, rocks, rock minerals, properties of petroleum, porosity, saturation, extraction percents, pipes and casing, tanks (capacities), conversion factors, and mathematical data such as algebra, trigonometry, and six place logs. Twenty-seven useful alignment charts for rapid computations of oil field problems.

561 pages, fabrikoid, postpaid $5.00

— Lest you forget, send check today to —

THE GULF PUBLISHING CO.
P. O. BOX 1307 HOUSTON, TEXAS

TYLER

Boiler Tubes

Charcoal Iron
for bad water conditions—

Lapweld Steel
for good water conditions—

For long tube life.

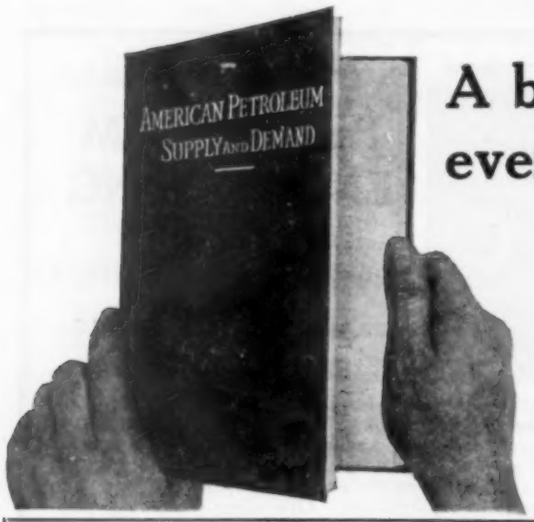
The Tyler Tube & Pipe Co.
Washington, Pa.

Texas Stock—Harrisburg Pipe and Pipe Bending Co.
Houston, Texas

PATRICK CARBON
for Diamond Core Drilling

Its
Reliability
Means
Economical
Drilling

R. S. PATRICK
Duluth, Minnesota, U.S.A.
Cable Address, "Exploring" Duluth



A book vital consequence to everyone interested in petroleum

The report of the Committee of Eleven of the American Petroleum Institute on the oil resources of the United States

Published August 7th, 1925

American Petroleum Supply and Demand

By the Committee of Eleven of the American Petroleum Institute
300 pages, 6x9, charts and diagrams, $3.00

This report is a survey of what operators and consumers may expect in the years to come. It shows what the present oil resources of the country are and what they may be expected to be. It shows what the present demand is and how it may be expected to grow. The report considers the demand for a period of fifty years from now.

What faces the petroleum industry?
How much oil have we?
How much do we need?

These are the questions dealt with in this momentous report, which is bound to have an important effect upon the plans and policies of the entire petroleum industry in this country. This sound, authoritative survey is based on the best information obtainable by a great number of operators, experts and scientists within and without the industry who have first-hand knowledge of conditions in the numerous oil-producing regions of the nation.

Some of the topics covered

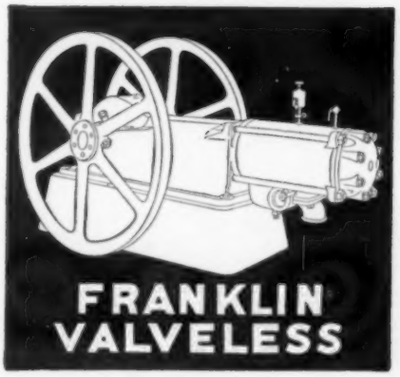
—indications as to probable discoveries of new oil fields;
—methods of possible recovery of liquid fuels from the vast deposits of oil shale, coal and lignite;
—oil shale resources of the U. S.;
—possible utilization of coal residues for recovery of light motor fuels;
—future demand for petroleum;
—suggested methods for decreasing the demand;
—gasoline demand;
—lubricating oil, crude, energy, and fuel oil demand.
—probable increase in number of autos and oil-consuming engines;
—mechanical changes which will conserve oil through more efficient utilization;
—character of estimated petroleum reserves;
—reserves in known fields;
—oil left in ground after flowing and pumping cease;
—waste of oil and gas;
—edge and bottom waters;
—research on production methods.

Every man interested in petroleum should have this book of facts

Order your copy today

GULF PUBLISHING COMPANY, BOX 1307, HOUSTON, TEXAS

You Be the Judge!



All Franklin Valveless Drilling Engines are sold on a performance guarantee basis or money refunded — and to date, although more than 300 of these engines have been installed under that guarantee—not one has been returned as unsatisfactory.

Let us submit a representative list of drillers using the Franklin Drilling Engine—see the Franklin in operation and install a Franklin on one of your wells under the Franklin guarantee—then compare results. You are the judge!

PRICES

FUEL OR CRUDE OIL DRILLING ENGINES complete with Self-oiling Reversible Drilling Clutch, Blower, Circulating Pump and Fuel Tank.

Sizes for MID-CONTINENT AND WESTERN SERVICE .....$3150.00 and $3700.00.
F. O. B. Factory.

Sizes for EASTERN SERVICE
$2600.00 and $3150.00.
F. O. B. Factory

GAS DRILLING ENGINES complete with Self-oiling Reversible Drilling Clutch, Blower and Circulating Pump.

Sizes for MID-CONTINENT AND WESTERN SERVICE.....$1725.00 and $2150.00.
F. O. B. Factory.

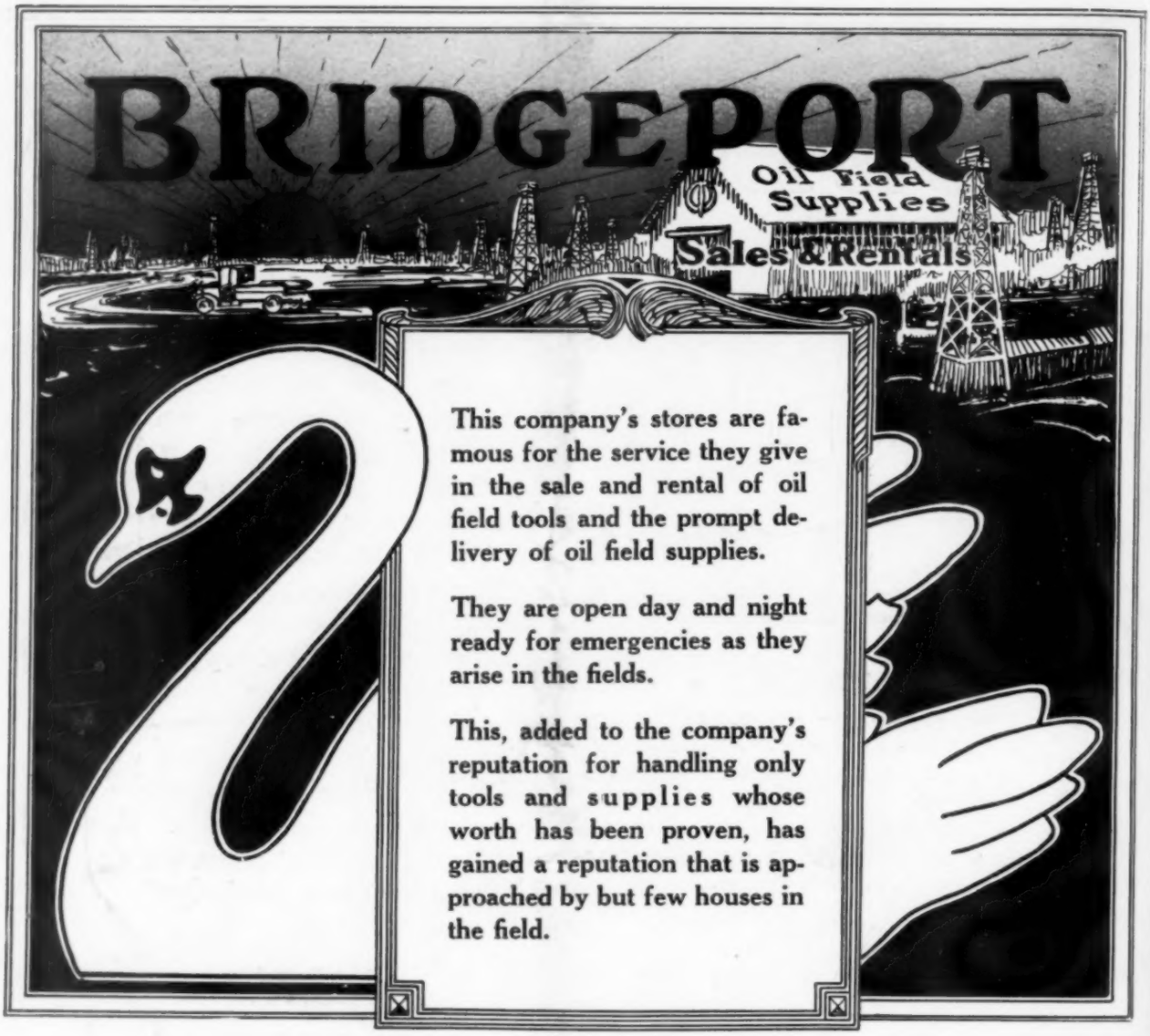
Sizes for EASTERN SERVICE
$1450.00 and $1725.00.
F. O. B. Factory.

Distributed by

ATLAS SUPPLY COMPANY
Muskogee, Okla., and Branches
NEW MARTINSVILLE SUPPLY CO.,
New Martinsville, W. Va.
INTERNATIONAL SUPPLY CO.,
Tulsa, Okla., and Branches
WOOSTER TOOL & SUPPLY CO.,
Wooster, Ohio
McEWEN BROS.
Bolivar, N. Y.
W. HUNTER ATHA
Zanesville, Ohio
WASHINGTON ENGINE & PUMP CO.
Washington, Penna.
BRADFORD SALES COMPANY
Bradford, Penna.

Franklin Valveless Engine Co.
FRANKLIN, — PENNA.

Franklin Valveless Engines
"The Wonder Engine for Drilling"


BRIDGEPORT
Oil Field
Supplies
Sales & Rentals
This company's stores are famous for the service they give in the sale and rental of oil field tools and the prompt delivery of oil field supplies.
They are open day and night ready for emergencies as they arise in the fields.
This, added to the company's reputation for handling only tools and supplies whose worth has been proven, has gained a reputation that is approached by but few houses in the field.

Wichita, Kans.	Winfield, Kans.	Wetumka, Okla.	Pawnee, Okla.*
Russell, Kans.*	Tulsa, Okla.	Tonkawa, Okla.	Panhandle, Tex.*
Gorham, Kans.	Depew, Okla.	Garber, Okla.	Breckenridge, Tex.
El Dorado, Kans.	Stroud, Okla.	Braman, Okla.*	Ranger, Tex.
			Marietta, Ohio.

A complete stock of contractors' supplies carried at points indicated by a star.